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AUTHOR	Alexander, Baine B.; Penberthy, Debra L.
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ABSTRACT

This report is based on the analysis of initial interviews with the staff of the Freshmen Learning Community Program (FLCP). FLCP is a pilot program in engineering education that focuses on diversity and cultural change. The primary purpose of this evaluative study is to provide feedback while the learning community program is being implemented. Data from students (N=13) and various staff included structured open-ended interviews and observations of discussion sections and learning program meetings. Five sections provide preliminary information regarding relevant issues, research questions, student experiences in the program, perspectives of the staff, and an appendix which contains the interview protocols. (DDR)

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LEAD CENTER
LEARNING THROUGH EVALUATION, ADAPTATION AND DISSEMINATION
UNIVERSITY OF WISCONSIN - MADISON

ED 412 095

Formative Feedback Report #1

Freshmen Learning Community Program

Fall 1995
UW-Madison

November 6, 1995

prepared
for

Leon Shohet and Denice Denton
PIs of the "Diversity and Cultural Change: Manufacturing Engineering Education for the Future" grant awarded to the
Engineering Research Center for Plasma-Aided Manufacturing
College of Engineering, UW-Madison

by
The LEAD Center

Evaluation Research Team:
Baine B. Alexander, Debra L. Penberthy

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1402 University Avenue, Rm 435, Madison, WI 53706
608 265-5920 • fax: 608 265-5923 • email: lead@engr.wisc.edu

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Preliminary Issues

A. Introduction

This is the pilot semester of the College of Engineering's Freshmen Learning Community Program (FLCP). This program was funded by the Advanced Research Projects Agency Technology Reinvestment Program grant entitled, "Diversity and Cultural Change: Manufacturing Engineering Education for the Future." The PIs for this grant engaged the LEAD Center to evaluate the first semester of the FLCP.

This report is a work-in-progress based on analysis of initial interviews with FLCP staff and student participants. Additional information was gathered during observations of student discussion sections and Monday night FLCP meetings. Because this report is based on interviews conducted at the beginning of the semester it is important for the reader to note that these are preliminary findings that may change over the course of the semester. It is also not feasible in the short time elapsed since the initial interviews were completed to report on all of the information collected, or to produce anything but a preliminary analysis. However, we feel that the information presented will be useful to FLCP faculty and staff members as well as those who are planning future learning community programs.

B. Purpose and Methods of Formative Feedback Reports

Purpose. The primary purpose is to provide the FLCP staff with formative feedback while the learning community program is being implemented. Feedback information is "formative" when it is used by decision makers to reflect on and analyze the program's goals and processes and then make any needed mid-course corrections.

Methods. The following data collection methods were used: structured open-ended interviews and observations of discussion sections and Monday night FLCP meetings. We interviewed a total of 13 FLCP students (six female and seven male). Ten of these students were interviewed individually and 3 were interviewed as part of a focus group. We also interviewed the Program Director, the FLCP Coordinator, the FLCP faculty members, and a member of the New Traditions Chemistry Grant Leadership team.

Information collected during open-ended interviews and observations allow evaluation researchers to "get inside of" the experiences of the program participants. Our data collection methods are as open-ended and subject-responsive as feasible to ensure that the views and the experiences of the program participants, not the researchers, are reported. Likewise, analysis processes are fundamentally inductive to ensure that the participants' experiences shape the findings. In practice this means that the researchers try to abandon the ideas that structured their interview protocols and observations while reading transcripts with an eye to what is most important to the participants. The primary analytical categories that emerge as the researchers process the transcripts are apparent in the report's table of

contents. In contrast to survey methods, these methods do not yield quantitative assessments of the proportion of participants who report pre-specified experiences or views. However, these methods provide extraordinarily rich information that expresses the complexity of the lived experiences of the study participants.

C. Technical Information for Reading this Report

Presentation of Transcribed Materials

A row of asterisks separating two contiguous quotes indicates that different interviewees are represented in the two quotes. Ellipses (...) in quoted material indicate deleted dialogue occurring within the reproduced material. Deletions are made so that readers can appreciate the speakers' views on a particular topic without having to sort through the divergent twists and turns of the raw dialogue. The quoted material is presented as faithfully as possible to the speaker's intent. If additional text is necessary to understand the quote in context to the rest of the discussion, it is added in brackets.

Use of Verbal Quantifiers

Specific verbal quantifiers are used to denote the relative size of a group of respondents who presented particular perspectives or described particular experiences in interviews. It is important to note that due to the nature of qualitative interviews, the size of a group that *explicitly described* a particular type of experience or viewpoint does not indicate the size of the group who *had* this type of experience or holds this view. Although the same interview protocol was used in each interview, respondents' answers often prompted discussion on a particular area that may not have emerged in other interviews.

The verbal quantifiers used in this report are:

"a few":
used when up to 30% of those interviewed presented the perspective under consideration (Note: when only 1 - 3 people are in the group to which we are referring, the actual number is noted.)

"many":
used when 30 to 70% of those interviewed presented the perspective under consideration

"most":
used when 70 to 90% of those interviewed presented the perspective under consideration

"virtually all":
used when 90% or more of those interviewed presented the perspective under consideration

Part One: Research Questions Suggested by FLCP Staff

The FLCP staff suggested several research questions as the basis for the LEAD evaluation. All of these issues are being explored through observations and interviews with the FLCP students and a comparison group.

In this section we refer to the FLCP staff members. This group includes the course instructors, the Program Director, the Program Coordinator, and a member of the New Traditions Chemistry grant leadership team. We refer to the Program Director, the Program Coordinator and the New Traditions leadership team member as "grant participants."

1. Is there a difference in the students' initial experiences at the university that can be attributed to the FLCP?

One grant participant discussed an interest in LEAD contrasting the experiences of a group of "control group students" who were comparable to the FLCP enrollees but were not participants in the program, with FLCP students.

> ...I'm also interested in knowing what it meant to the students. So presumably you will talk to some students who weren't in the learning community who were taking those courses. I know that you have done this with WES, you looked at the people in the WES program and the people in the traditional approach. Make them comparable...See if there's any difference in how they view the world and how they view making [intellectual] connections. Or how they view what it means to be at the university. Or how they feel about studying. I think that - we've read a lot of things about how alienated students...[in] courses like introductory chemistry often feel isolated and alienated and like so competitive. Is there a difference if they're in one of these communities?

2. Did a community form among the students in the FLCP? If so, what was the basis of the community?

One faculty member expressed his interest in knowing whether or not a community actually formed due to participation in this program, and, if so, what was the basis of the community.

> R: Yeah, [I'd be interested in] their own perceptions of whether they found this approach helpful. Maybe when I'm doing as little as possible. Whether there was a community.
>
> I: Whether there was a community ?
>
> R: Yeah, whether the community did form. And what sort of grounds it formed [on]. And was that community helpful.

3. Did students learn differently because of their participation in the FLCP?

One faculty member suggested that LEAD explore whether or not students' learned differently because of their participation in the FLCP. He would like LEAD to ask the students about their journal writing experiences and determine how, if at all, this affected their metacognitive processes.

> ...[I would like to know if the students found] that their learning was different than they thought it would be. I mean I'm really interested in metacognition. And I'm really interested in what students think about their learning...And one of the things I'm having [another class of mine do]...is to think about their own thinking...and how they think differently about different things. Not so much that the things are different, but their thinking about them is different. And you know, some times you think with your gut, some times you think with your soul, some times with your head. And, so it would be interesting to sort of get a picture on that compared to where the community didn't exist. Did they find that integrating these things changed the way they thought about them. And so their process, did they process the information any differently. Did that help them.
>
> I mean...when they're sitting in chemistry do they have mental images of me talking about chemistry or the exercises they did on the journal. Did that really help them. You know, when they got on a chem final, could they think, "Hey, that's what we did...That's what I did with all those exercises." You know, that kind of thing. I would say that's what you should look for.

4. If the objectives of the FLCP are being achieved, which strategies have led to these positive outcomes? In areas of less success, what could be changed to achieve the goals?

One grant participant indicated interest in understanding not only if the objectives were being achieved, but which strategies led to an effective program. S/he also wanted to know what could be changed to make the program more successful.

5. How do the outcomes of a learning community program differ when the faculty members are involved in planning and changing the structure of their courses in order to create connections between content areas?

Two grant participants indicated their interest in what they saw as a larger evaluation taking place over two semesters. The New Traditions leadership group in the Chemistry department is planning a learning community program for the Spring, 1996 semester. The faculty members in the New Traditions learning community appear to be involved in creating the goals and planning the implementation of the program. These two grant participants would like an evaluation of the second semester learning community program in order to

determine if the student outcomes differ between the two models of faculty participation.

> [The FLCP community was not formed by] pulling together the four or five faculty on campus that happen to share a goal...and then saying let's do a learning community. Because with this structure of a learning community--[being based on the highest number of students who are co-enrolled in three courses], that wouldn't work. This is the kind of thing where you're looking at extant structure and trying to modify it, and so when you look at extant structure and try to modify it, you have to work with what you've got.
>
> I: Right.
>
> R: And the hope is that next semester's learning community, the faculty appear to be...[driving the learning community] ...Okay, so what I'm hoping to learn from this semester to next is how much difference does it make if the faculty share a vision. As it appears to me that the fellow from math and the fellow from chemistry, next semester, they've started meeting, they meet with [a grant participant] who's going to be [involved] next semester...[because] it's going to be supported, in part, by New Traditions. So it will be interesting to see whether it makes much of a difference to the kids that the faculty are more [personally invested], or whether the primary benefit to the kids is in social aspect of being tracked through all these sections together.

The above interview excerpt also illustrates the staff member's interest in understanding which strategies have the largest impact on the students' learning experiences: having faculty foster intellectual connections, or simply co-enrolling groups of students.

Part Two: The Student Experience in the FLCP

This section presents material and issues that emerged from interviews with FLCP students. Unless otherwise indicated, the themes presented represent the students' perspective.

I. Benefits of the Freshman Learning Community Program and the Degree to Which Students Benefit

In this section we discuss benefits of the program as described by FLCP students in their interviews. We also discuss the degree to which students benefit from the program. Because not all students attend the Monday night meetings, benefits derived from attending those meetings are not discussed in this section; they are addressed in a section that considers only this aspect of the learning community (see Section II.A.1.). It is important to note, however, that students who attended the Monday night meetings indicated that they were experiencing the following benefits to a greater degree.

A. Benefits

1. The FLCP "Shrinks the Size of the UW"

When asked about their experiences in the FLCP, several students mentioned the size of the student body and juxtaposed this with the 20-25 student faces that were familiar to them because of the learning community. Students felt that being familiar with a small group of students made adjusting to the UW easier.

> I: ...What does that mean for you to have the people that you know in your same classes...
>
> R: Well, it kind of - it kind of shrinks the university down a whole lot because we're seeing the same people all the time. And I'm able to study with those people. I have a group of friends you know, that are there. And you can talk and whatever, but we can also do our work together.

****

> I: ...if you saw the other students from your calculus or your chemistry discussion section sitting at a restaurant across the street, what would you do?
>
> R: Well, if I had time I'd go over and at least talk. I don't know if I'd join them or not but I'd definitely go and talk with them if I had time. I guess I feel comfortable enough with everyone that even if I don't their names, I know their faces, and I know they know mine...And that's kind of a comfortable feeling because you know, at least there are some people out there that I know.

I: Yeah, what does that do for you, given that you're new at this University?

R: I think it makes it a little easier, I really do. I think I have had some more options...I mean everyday I pass people from the learning community that I can say, "Hi" to, and it makes it easier somehow. Like it's not quite so scary because you know, people are saying, "Well, there are 42,000 other students on the campus!" So it just makes it seem smaller.

****

...There's always somebody that you see that you know, like just walking down the street.

Another student listed several programs or organizations, including the FLCP, she was involved in that made the UW smaller.

[If I were taking pictures to show my friends what UW was like for me], I'd take pictures of like my residence hall and then my room and some of the people on my floor. I'd take a bunch of pictures of the classes, I think, 'cause that seems to be why we're here - just the size of them as compared to the discussion groups. You know, the groups are a little bit smaller...And I would take pictures of the different sorts of activities I'm in, like Society of Women in Engineering...and American Society of Mechanical Engineers, and then the learning community, you know, just so that they know there's other things you can get involved in so the campus doesn't seem as big.

a. "Nice to sit next to a familiar face"

Like most students in the FLCP, the student quoted below related that she valued attending discussion sections with the same 20 students.

...[I joined because] I thought it would be really neat, to see the same faces and to have people you know have the exact same assignments, the exact same classes. And it is really nice being able to walk into the lecture and be able to pick out 20 or 25 people that I know. I mean, I don't know them really well, but it's nice to sit next to a familiar face.

Many FLCP students indicated that having the same students in two discussion sections made it easier to talk to their classmates. They mentioned that even though they did not know everyone's name in their discussion section they knew their faces and that this provided a certain level of comfort that otherwise might not have been there.

I'm comfortable in my discussions. It's kind of nice having the same guys in both discussions, because you know, you're used to them, you can talk about [both calculus and chemistry]. You know, once you get into chemistry discussion you can

talk about what you just did in calculus discussion, and stuff like that. So you know, I like it in that aspect, having the same guys...

****

I: Have you met people then, in your discussion sections now?

R: Yeah, sure. I mean, one guy, he's my lab partner in my discussion and stuff like that. And I feel comfortable talking to the guys. I don't really remember their names and stuff, but I remember their faces and I know they know me. And so I feel comfortable talking to them.

Another student compared his chemistry and calculus discussion sections where he knows almost everyone, with his philosophy discussion, where he knows only a few students.

I: ...what's it like to be in the same classes with the 20 different students.

R: It's good 'cause you meet them a lot quicker, which is good. Like you can walk into class and say, "Hi, Hi," instead of walking in like my philosophy discussion no one knows anyone. I mean I know different kids that I sit by each day, I meet them but...

I: It just takes a little more effort than those ones?

R: Definitely.

b. Makes it easier to find help from peers on coursework

Most students indicated that the FLCP made it easier to find other students to work with and to get help from.

I'm just really glad I [joined]...It's so much easier to find people to study with, and I've met a lot of people that I've studied with a lot. I met a girl that was in my psychology class who had the same classes, but she's not in the learning community. She didn't get recruited 'cause she's not an engineering major, or something, and she was just really jealous of me. She's like, "Oh, how come I didn't get in that, 'cause I can never find people to study with that easy. They might have the same class, but they're not in the same lecture or anything."...So I guess I'm pretty lucky.

****

...when I'm having a problem I can go ask somebody else. Without really having to search them out, I can just call somebody up [in the FLCP]. You know, like a friend or something.

****

...it's nice having people in the same classes together. I really like that. We can ask each other questions and - it's just better if you see the same people day in and day out. So if we need help, we can e-mail or call each other. And that works out good...It's a lot easier to talk to those people now that we know each other. And it's easier to approach them and ask them for help than it is to ask in a regular...lecture. Because I guess it's a big culture shock for everybody to come down here and see 40,000 people...These small town people don't want to talk to anybody else. They're scared. But, if you continue to see people day in and day out, you can ask them whatever you need more or less.

One first generation college student expressed her sense of being overwhelmed by college and not having her parents to turn to for answers about college level work. The FLCP allowed her to meet and talk with others.

I: What does it feel like to be the first person in your family to go to college?

R: It's kind of strange...Because - well, like I can't go to my parents for help with my homework anymore. (laughs) [If I were to say], "Can you help me with this?," [they would say], "What are you talking about." (laughs)

I: That's interesting. What does that feel like?

R: ...I feel like I have to work a lot harder because I don't have anybody to go to. I have to figure it all for myself. And like a lot of people have parents who are like professional you know, like professionals in their area. Where as I have a mom who works in like the food service department and a father who works in a factory...And my sister to can come to me, right? Because I know the stuff that she's going through, but I don't have anybody to go to. (laughs)

I: You don't have anybody that you could do that with.

R: Right. So like this has helped me a lot too because -

I: What?

R: The learning community...Because I can talk to people who understand things better than I do and get like explanations.

I: You mean like talking about the work? Like calculus?

R: Yeah. Calculus, chemistry, whatever.

I: Right. And you feel like that has really helped.

R: Yeah. I think that's helped a lot.

This same student went on to say that the FLCP students helped each other find better ways to do their assignments.

I: ...You said that the learning community is a big help in you achieving your goals. What do you mean by that? How so?

R: It helps - it helped me (pause) because when I came to college I'm like "Well,...I know I want to do well. And I want to be able to compete with the people around me." And not so much by comparison, but like we all talk about you know, how we did on this. "Well I got a 9.5 on the lab. How did you do?" You know. And you can kind of gauge how you're doing by these other people. And if you have a problem, you say "Well, you got a 9.5 on your lab. Can you tell me how to improve my 7 to a 9.5?"

...So we compare ways of how to do things. And we all talk about what we've learned together you know. Like, "Well, I've learned that the best way to do this is this way. So maybe you want to try it this way and this might be easier for you and you might get the right answer because you don't have to go through as many steps or whatever." ...By doing that, it's helped me, because it doesn't take me as long to do a problem...Because I can talk to these people and find out an easier way to do it...So I can get through more so that I don't have to worry about rushing through a test. I can recheck my answers.

She specifically discussed the benefit of being co-enrolled in the learning community courses with a group of 20 students.

R: [If I weren't in the FLCP] there wouldn't be as many people that I could like just go out and say "Oh, well, you know, can you help me with this?"

I: OK. It just wouldn't -

R: It wouldn't feel right. You would have to like - I don't know. Like, there are 300 people in your lecture. If you know 20 of them, it feels a lot better than if you go in not knowing anybody.

Many students discussed their preference for getting help from peers, because they were "on their level."

I: What does that do for you when you have a friend who is able to help you out in calculus and chemistry as opposed to a TA and professors. Is there a difference for

you?

R: Oh yeah. I don't feel stupid. I mean, I'd rather go to someone who can explain it in my [terms], I mean, instead of going into office hours and stuff.

I: Can you sort of expand on that? What is the difference, how they explain it? How is it different from the professor?

R: Well, they're on the same level, so they would do the steps basically that I would do instead of assuming that I knew something...

Several students discussed having discussions with their classmate in one class about another LC class that day. This also made it easier to get help from each other.

I: Yeah, so what do you think it would be like if you weren't in the learning community and you were just randomly in classes with different people? How do you think your experience would be different, if at all?

R: It would be different because [as it is in the LC] like if you're in one class, people are always [talking to each other]. I mean, we have discussions about what is going on in the next class because we were all in the same class. And then if you're studying with one of them, you can study all three subjects.

****

I: Do you think the learning community has anything to do with [your feeling that the University is small]-

R: I think that helped a little, yeah. I think like seeing a lot of the people all of the time like from lectures and knowing like that they have everything that day if I have questions on any of my classes in my discussion. Like calculus and chemistry I can ask about it like in class or something. So, it's a little easier than [trying to talk to someone from] just seeing [them] once in a class.

Learning community phone lists as facilitators of communication

The FLCP students were given phone lists of the other students in the learning community. These phone lists were compiled by the program coordinator. The FLCP phone lists made it easier for students to call each other for help.

R: I usually study with just one person. It's not always the same person, but I usually study with just one person. I usually - I can just call people and just ask questions and stuff.

I: Like if you're stuck on homework?

R: Yeah. Then I would just like - you know, I have the learning community phone list right above my phone, so I'm always calling people to see who's home.

Another female student discussed the phone list. She indicates that having the phone list means students don't have to go out of their way to get in touch with each other.

R: I fumble around with it first. And then you know, if I really have a problem with it I'll go to one of the - because we have a list of all the telephone numbers for the people in our section of the learning community...So that - like it helps because you can like, the people that you become closer to than the rest of them, you can call them and say "Well, I'm having trouble with this problem. Do you understand how to do it?" And then if they don't understand how to do it, then you go to the TA the next time you see him. And then you say "Well can you do problem whatever?" So I think - I think that helps a lot too. Like if I wouldn't have had the phone list of the people, I wouldn't you know, be as inclined to talk to them or call them for help.

I: Oh, really. Why is that?

R: Because I would have to go out on my own and say, "Well, can I have your phone number in case I need help with this?" ... Whereas if you already have it [the phone number] you might as well use it. (laughs)

c. Studying with classmates helps form friendships

One student explicitly discussed the formation of friendships through studying with other students.

I: So can you tell me more about that, what you feel like you get out of studying with another person?

R: I feel like I made a friend, 'cause you get more close to a person when you spend an entire night with them studying. If you don't understand something, instead of having a professor describe it to you, it's like somebody on the same level as you who will probably have the same questions as you do...So it's a little bit easier, 'cause they know where you're coming from. And they know it might be confusing...I just basically get my learning and friends [from this program].

Evaluator's Viewpoint:
This benefit suggests that the FLCP is helping some students to bridge the gap between

social and academic arenas. According to Tinto, et. al[1] learning communities based on the model used by the FLCP help students meet academic and social needs "without having to sacrifice one for the other."

d. Helps students form supportive peer groups providing a "family" in the absence of their own

One female student related her initial feeling here at UW that everything was just "thrown at you." The Freshman Learning Community Program has helped her to make the transition to college by making it easier to make new friends and find a base of support.

> R: ...I felt when I first came to college that everything was just thrown at you. At one point you had no responsibilities whatever, you lived at home. All of a sudden you're on your own, no family, you're responsible for all of your actions. But when I went to the learning community it helped me to realize that other people felt the same way. And it wasn't going to be really horrible. So it kind of - it - it helped the transition - my transition to college at least. It kind of helped me find new friends. You know, my friend [from home] lives all the way on lakeshore. I'm like, "I'm not walking over there every night you know, just to get help with math." So you know, now there are a lot of people that live in my building that I can go to for math.
>
> I: They're in the learning community?
>
> R: [Yes]. They're in the [learning community].
>
> I: They live in your dorm?
>
> R: Yes. So it's kind of helpful that way. It gives you more of a sense of security. Like all of you being away from your families. You're kind of like nervous. You're kind of - you're scared.
>
> I: It's all pretty new.
>
> R: Yeah. For most of us - well, we all weren't away from our families for an extended period of time. So it's helped because you have someone you know that you can talk to or whatever about the problems you're having. About - just about anything. Because everybody that I've met in there is really, really nice.
>
> I: Oh, really. Well that's great. So it sounds like it has helped you.

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[1]Tinto, Vincent, Anne Goodsell, and Pat Russo. "Building Community." *Liberal Education*, 1993, 79 (4).

R: Yeah, it's kind of like a family.

I: Really?

R: Yeah, we're all like "Oh, how did you do on your exam? How did you -" Everybody is like really supportive. "Oh, you got that. Wow, that's really good."

e. Makes it easier to ask questions in discussion because you know the other people and feel more comfortable

One female student stated that because she knew the people in her math and calculus discussions she felt more comfortable asking questions:

R: Well, my lecture for Spanish is like a discussion section. There is only like 20 people in there. So I suppose I could compare [the LC discussion sections] to that. Um, (pause) I feel more comfortable in my chemistry and math discussions than I do in my Spanish lecture.

I: Oh really. Why?

R: Because I know the people. Because they don't intimidate me anymore. I mean the people in my Spanish lecture I'm sure are all really nice, but.

I: Right. But you don't know.

R: Right. I don't know them.

I: That's really interesting...Do you feel like it's related then to knowing a little bit about those people.

R: Yeah. I think most definitely.

She went on to add that she had discovered that usually if she had a question other people had the same question.

R: Oh, I ask questions all the time.

I: You do. So you feel pretty -

R: Yeah, I don't care you know. (laughs)

I: You feel comfortable. (laughs)

R: Well a lot of people like, have the same questions I do. Because I've found that

already. Like if I have a question on something, a lot of times someone else has already asked it. So that way I know you know, I'm like not the only one that's not understanding this. So I'm more inclined to ask questions.

I: OK. But you're saying instead you ask - you raise your hand and you're asking.

R: Yes. I'm raising my hand and I'm asking the TA's.

f. The FLCP fosters group indentity which gives students a sense of belonging

For some students, particularly those who go to the Monday night meetings regularly, the FLCP has given them a sense of "belonging" at the UW.

I: ...so how do you think your experience at the UW would be different right now if you weren't in the learning community?

R: Hmm. (pause) I don't know. I guess I would feel like, kind of more of an outsider. Because right now you know, I feel we're a community...And with all those huge lectures, I would probably feel even more of an outsider than I already am.

Some students described having a sense of group identity. To varying degrees, two features of the LC were important in fostering this sense of group identity: co-enrollment and the grouping of all pre-engineering students.

1) Co-enrollment of a small group of students

Although not all students fully participate in the LC (by attending the meetings and seeking other students out), some students indicated they all shared a group identity by being learning community students--by being co-enrolled in two discussion sections and three lectures and having made the decision to join. This group identity facilitated communication between students and enabled them to seek help more easily from each other.

I: ...So, when you have difficulty on a homework problem, what do you do? You said you'd call people. Do you call like a wide range of people or are there a few certain people that you call or?

R: Usually it's a few certain people. Although, like the other night we were working at the chem lab with other people from the learning community and there was this one problem, and we weren't sure what the answer was and so we just worked on it. And [my friend and I] called everybody in our learning section...we just called everyone, and tried to see what everyone had gotten...We kicked around some ideas, but we weren't really sure if any of it was right, and we talked to everyone. And then chose something completely different anyway.

I: That's interesting.

R: Everyone seemed friendly, although there were a couple of people we called and they didn't recognize the names, but once I said that we were from the learning community, they were very friendly and wanted to talk, which I thought was really nice.

Another female student shared similar thoughts. She discussed the ease with which she could find study partners through the LC and explained this was due to the fact that "we're all in there for the same reason."

I: What do you hope to get out of [the LC]?

R: ...It seems like everything that I wanted has already come true, sort of. 'Cause it's just so easy to find people to study with, and you can basically call up anybody on the learning community list and they won't be like, "Who are you?, cause they know you kind of, some of the same faces. And they have the same assignments and stuff so they can usually answer questions. It would be no big deal to ask anybody there to go and study. It's not like, "Oh, I can't believe they asked me to study! It's not a big deal 'cause we're all in there for the same reason. Basically everything that I wanted has already pretty much come together.

2) Pre-engineering as a commonality

Two female students related that being in classes with all pre-engineers made it easier to relate to their classmates. One of these students is quoted below.

It's nice having people who are looking at the same thing because you can say, "Well, I was thinking about this, what do you think?" And they're not going to say, "I've never considered that EVER," or "I have no clue what you are talking about!"

The other female student who indicated this felt she was "never alone" because she had other people to talk with about her major.

I: So what's it like to be in the learning community with all pre-engineers?

R: ...It's kind of nice. You have something in common already, and you never feel like you're alone. If you're like, "Oh, are you having doubts about your major?," and they'll be like, "Yeah." I don't know. Or, [I could ask] "Do you have any idea what's going on?," [and they might say], "No." So it's nice to have people that are, like, coming from the same thing...

A male student made similar remarks:

I: So in your discussions sections, what's it like to be in a class with all pre-engineers?

R: I don't know, it's pretty good 'cause...even outside of the learning community classes you have similar classes with them, and you can talk about if you're for sure going to go into engineering and stuff like that.

This student, like several of the LC students interviewed, is also enrolled in the CoE's design course for first-year students.

Two female students indicated it was new for them to be one of many "smart students." In high school they were one of a few elite students. She pointed out that the benefit of being one among many advanced students was that she got a lot more help.

I: So what's it like to be in a class of all pre-engineers, or a learning community with just pre-engineers?

R: It's different. I haven't been used to hanging around people that are all really smart...like back in high school I was like one of the top people. It was weird. I mean, I was comfortable with that, and then here, it's like, "Wow!" But you can get help from a lot of people, and I've never actually been helped this much before.

Many students expressed that it had made little difference that all of their FLCP classmates were pre-engineers.

I: Is that valuable to you [that you are all pre-engineers], or does it change your experience at all that you are in there with all these other people that are going the same direction as you are?

R3: I don't really know, I mean, I guess we all kind of have the same goals.

I: But you don't really necessarily think about it?

R3: No, not really, no.

I: Okay. Do people end up talking to each other about engineering?

R2: Not really.

R1: Not a lot.

R3: Not a whole lot in class.

****

I: What is it like to be in a class where everybody is a pre-engineer?

R: Hmm (pause) I guess, I never really thought about it. I guess I thought of it as, "Well, we're just a bunch of guys who all have the same classes."

These comments seem to be representative of the majority view.

Another student indicated he would prefer more diversity among the students in his discussion section.

I: What about being in the class with all pre-engineers? Does that make a difference?

R: I think that - well, it doesn't matter a whole lot to me, but you can tell the difference, I think.

I: In what way?

R: Well, there's the stereotypical engineer - we're into math and science and that's about it. I don't know. It just seems different.

I: Is that ideal for you to be in a group where everybody's like that, or would you prefer to -

R: Not necessarily. I think it would be a little better if it was a little more diverse 'cause we kind of all tend to think the same way, go about solving problems the same way. Not all the time, but, you know, I think you could tell the difference.

2. Helps students realize that all three courses are related

Most students indicated that the journal assignments had made them realize that the three FLCP courses were related to some extent. This benefit is discussed fully in the section that addresses the effects of the journal writing on the students' experience in the FLCP. See, Section II. Key Elements that Shape the Students' Experiences in the FLCP, B. Journal Writing.

B. Degree to Which Students Benefit from the FLCP Varies

A few students (2 males from the all male LC, and one male from a mixed LC) indicated their relative lack of a sense of belonging to a learning "community." The following student, discussed that he didn't feel "a part of anything.".

I: ...Are there certain things that you would like to get out of the learning community

that you are not already getting?

R: Um, (long pause) I don't know, I guess, I mean our TAs and our Professors are like acting like you know, we're these special students because we're in the learning community and stuff, but I don't feel any different than any other student...it doesn't really feel like I'm a part of anything. I know I'm in class with all these guys and, you know, we're all together and we're, we can like study together and they're going to be there if I need to them questions and stuff, but it doesn't really feel like we're, like a part of anything.

This student had not attended the LC meetings, because he was not aware of them.

The student quoted below made similar comments. Although he said that the university seemed small, he said the FLCP had had little effect on shrinking the size of the university.

I: What about the learning community? Has that had any effect on shrinking the [size of the university]?

R: No, I haven't really been to many of the meetings, or the functions, 'cause I usually have other stuff going on at night. But it's nice to have people in the same classes, you know. When there's 300 people in your math class, if you know a few of them...I don't know. Chem discussion or whatever, it's a little bit better...I'm not really getting a whole lot out of it except for those are the classes I wanted. Right now I don't think it would really matter to me if I was in it or not 'cause most of the time I can't even make it to their meetings, or whatever they have. I don't know.

He seemed to strongly connect not attending the Monday night meetings with not really benefitting from the program.

Evaluator's Viewpoint: Degree to which students benefit may be linked to the needs and preferences of the student

It is possible that the degree to which students benefit from the FLCP may be related to the needs and preferences they bring to the program. At this point it is difficult to make any assertions about the relationship between particular variables within students' backgrounds or preferences and the degree to which students benefit from the FLCP. However, certain potential variables have been identified and warrant further exploration in subsequent interviews. These potential variables include: gender, high school preparation for math and science, extent of students' network of pre-existing friends, preference for studying alone or with others, and whether or not a student is a first generation college student.

II. Key Elements that Shape the Students' Experiences in the FLCP

This section addresses key features or actors within the FLCP program that shaped the students' experiences in the FLCP.

A. Attending Preliminary functions and Monday Night Meetings Increases Benefits and a Sense of Belonging

In addition to the meetings held on Monday nights for all of the FLCP students, there was a "kickoff dinner" held for students and FLCP staff, and a CAE intro, at which students received email addresses. Most of the discussion that follows focuses on the Monday night meetings.

Note: Students were interviewed after only one to four Monday night meetings had transpired.

Whether students attended the FLCP meetings had an impact on the degree of benefit from the community and the degree to which they feel a sense of belonging. Those who attended more consistently expressed that they felt they were part of a community. Students who were unable to attend the meetings tended to have fewer social connections with their classmates. One student who has to work on Monday nights indicated she would like to attend the Monday night meetings to,

> ...Get to know everyone, that would help, because some people might have the same problems as you, but you never found out.

She went on to say that because she had not attended, the LC was more academic for her than social. By academic, she meant she had been able to find at least one other person to study with.

> I: ...if you had to say it was more academic or more social, which would you say?
>
> R: Probably academic, because I've never been to any of the meetings, so for me it's academic.

1. Benefits of attending

Students described several benefits from attending the meetings.

a. Learning each other's names and making friendships

Students who attended the Monday night meetings valued the opportunity it provided to meet other students and get to know them. Several students made comments similar to the one below.

> I know the [other] kids who go [to the meetings], I know most of the kids. I've gotten to be friends with them. I say, "hi: all the time...I know a lot more people's names now...
>
> **********
>
> I: ...So why do you think that the people that do come, come? Is there something different about people that come or?
>
> R: I think we're getting to know each other a lot better, building some friendships that will kind of last. And then we can from there get some people that can actually help each other then.

One female student who had attended approximately every other meeting said,

> [At the meetings] there's like the people that you know that you tend to group with, but a lot of the meetings have taught us to go out and talk to other people. People that you don't know. It's not going to kill you to talk to people you don't know. (laughs)

She went further to explain that the social mixing that was required in the session at which Linda Schilling discussed personality types and the Meyers-Briggs framework helped her reduce her apprehensions about talking to new people.

b. Expected Benefit: An introduction to the College of Engineering

At least two female students expressed their expectation that the meetings would give them an introduction to the CoE and the field of engineering. The first excerpt is from an interview with a student after only two Monday night meetings.

> I really haven't gotten a flavor of exactly what the Monday night meetings are going to be like. I think they'll be useful, I really do. I think I'll get a better idea of what exactly engineering is or what the College of Engineering is about and what services they have to offer. I think Ian mentioned something about people coming in and talking about that. And I guess they'll let you know the resources that are available.

Another female student indicated that she had already begun to be exposed to the College of Engineering through the FLCP functions.

> R: Oh, I most definitely think [the meetings] are worthwhile.
>
> I: Oh, really. Why?
>
> R: They've helped me to communicate with other people. They've introduced

anybody who has gone to a lot of the professionals in the engineering community. We're taking a field trip to some engineering facility on a Friday afternoon sometime. So.

I: And you like that idea?

R: Yeah. It will help us to learn what's going on and like what we'll be doing. That type of thing. They've introduced us to a lot of the - well, not the professors so much, but like they've introduced to a couple of deans. They introduced us to Denice Denton--the people that we'll most likely be working with eventually in our time in Madison. They've introduced us to a lot of those people.

I: And you like that?

R: Yeah, I think that helps a lot because...there was this woman that came into lecture, and I'm like "I know I know her. I just don't know where I know her from." And she had come to one of the learning community meetings and talked to us. So I'm like, "I know I know her from somewhere." So then when she like, said her name and I'm like "Oh, she was in our learning community meeting." (laughs)

c. Benefits from particular meetings

1) Learning about your personality type and/or learning style

Three students indicated that they valued learning about their personality type and/or learning style from the meetings held by Linda Schilling, the CoE's counselor. At one meeting, Schilling had the students take the Meyers-Briggs personality indicator test. At a subsequent meeting, Schilling discussed the implications of various preferences indicated by the students' test results. Although some students felt that they benefitted from these meetings through learning about themselves, several students indicated that they did not enjoy these meetings because they were not interactive enough.

2) Meeting professors

One student related he enjoyed meeting his calculus professor at the "kickoff dinner."

I: So what were your first impressions of the learning community [functions]?

R: ...They're great. I mean for meeting the people. I mean like at the first meeting we met the faculty and everything.

I: You did? Who do you meet?

R: Well I met my calculus professor...

I: ...What was it like for you to meet your calculus professor?

R: It was neat. (laughs)...I mean it's kind of weird to see him outside of class. But I liked it.

2. Attendance Issues

Attendance at the Monday night meeting has varied between approximately 1/3 to 1/6 of the 66 students attending the meetings. Students' perspectives on the affects of and the reasons for low attendance are discussed below.

a. Effects of low attendance: Not optimal from the standpoint of students who attend

There were three main reasons that students indicated their desire attended the meetings.

1) If attendance were higher, there would be more people to meet

After relating that she had made some friends through the LC, the following student was asked,

I: ...What about other people, are there other people that you do stuff with outside of the learning community that you have met there?

R: A couple of people. For the most part it's, you see someone on the street and you walk up and then you say, "Hi." ...It would be nice if more people came to the Monday night meetings, I guess, because in classes it's kind of hard to get to know someone, and I thought I'd just have to meet them at the meeting. But that doesn't seem to be too popular.

Another student said that if closer to the full 60 students came to the meetings,

R: It would be a lot better, I think it would be a lot better.

I: How so?

R: More involvement and interaction...

2) Everyone who comes benefits, so if more people came, more people would benefit

A female student said,

R: I mean the speakers that I was there for were very, very interesting. And they've helped me to understand myself a lot. And I think I'd try to make it more of like [a meeting open to all engineering students], like I suppose you wouldn't have to just

limit it to the learning community. Like make it like an engineering thing, rather than just for the learning community. Because I think that will draw more people and expand things a little. Because like when I've gone, there's only been like 20 people out of the 60. So that's like a third of the people. But if you expand it to engineering, I'm thinking maybe people will be more inclined to come.

I: Do you think it's important that more people come?

R: I think it's important that more people come only because it helps them...

3) Students get discouraged when there are so few attendees

From interviews and observations, it has become clear that students get frustrated when few people attend the meetings. The quote below indicates this frustration and also shows that even though the attendees benefit from the meetings, they want more people to attend.

R: ...I just wish more people would show up so we can actually be in some groups, instead of two or three people in about eight or ten together.

I: Yeah. When you walk into the room and there's like twenty people there, what do you think?

R: I just feel like going back and getting some studying done.

I: Oh, really?

R: But - the people who show up are the same people every time. So those are the people that are going to benefit in the long run.

At least one student felt badly for the program coordinator when few people attended the meetings.

I feel kind of bad for Ian because he tries so hard. Nobody shows up. And it's like - that's one of the reasons I go. It's just you know. [I mean], there are people there.

b. Reasons for Low Attendance

1) Scheduling and Communication Problems

All of the students interviewed that had not attended the meetings indicated that they either did not know about them, did not know they were every Monday night, or had a scheduling conflict.

a) Students have schedule conflicts

Because the Monday night meeting schedule was not included in the timetable, the program coordinator had to determine the time for the meetings based on the students' course schedules. However, several students that were interviewed indicated that they had extracurricular activities or work scheduled at the time selected for the meeting.

b) Some students were unaware of the meetings

Students who did not attend the "kickoff dinner" for the FLCP staff and students did not receive a schedule of the meetings. Two students indicated in their interviews that they did not know about the Monday night meetings until schedules were distributed in the discussion sections after the first few weeks of classes.

c) Notices were sent by email and many students infrequently check email

One communication problem resulted from the fact that many students check their email infrequently, if at all. Email was the primary communication method used by the program coordinator to notify the students of meetings.

2) Other reasons students do not attend

a) Students lacked an understanding of the purpose of the meetings

Students who had not attended the meetings did not have a clear idea of the purpose of the meetings. For example, one student who had attended none of the Monday night meeting is quoted below.

> I: So what do you think the purpose of the meetings is, or do you have an idea?
>
> R: I'm not really sure what they do. I don't know.

b) Students have busy schedules and sometimes need this hour for other responsibities

Students who had attended some but not all of the meetings noted that they had not attended because they needed that hour to do other things, such as studying. One such student said,

> I: When you don't go, why is that? Like you mentioned you were doing laundry...
>
> R: It's things that I know have to get done and it's more important than going out and doing this for an hour. It's like I need that hour to do something else. And if I could I would definitely go, but I have all this other stuff to do. So - and I mean I've been up till like 2:00am even on those Monday nights doing homework yet...

I: I understand. Yeah. Do you think they're worthwhile? The ones you've been to. What do you think of them?

R: Oh, I most definitely think they're worthwhile...it's helped me a lot in just the three that I've been to. Then if people don't come - like, even when I don't go, I feel like I'm missing something, I know I'm missing something, and it's not going to help me not to go, but I really can't go. I really should go.

c) Some meetings do not interest them

Some of the meetings may not have interested the students as much as others. One student indicated that the Jeopardy game that was planned for one of the meetings was not "exciting enough" to make him want to attend.

I: Okay. Let's see. So would there be anything that would draw you to those meetings?

R: I guess I'd have to know more what they're doing. Well, the one time when they were going to have a big Jeopardy game or something. I don't know, I didn't really feel like going in the evening, and I was kind of tired. It didn't seem that exciting to make me want to go.

d) Students may not attended because they feel the group has already formed

One attendee speculated that some other students who did not attend the meetings would find it hard to do so now, because they didn't know what happened at the meetings and would feel like outsiders.

I: Why do you think people don't want to come, if they don't? I mean, have you heard anybody talk about that? Like "I don't want to go to that."

R: We had a review session for chemistry and someone had said "Well, you know, don't worry about the Monday night meeting. Just go to the chemistry review." But I think that a lot of times people don't want to go [because] it takes too much effort to actually go out and do something, you know. I think that a lot of it is that they're afraid, you know, not so much afraid, but they're like nervous, you know, they're apprehensive. They don't know what's going to go on.

I: Right. Don't know what to expect about it.

R: Right. Because they've never been there. Where as I've been there, I know what to expect. I know, and I really want to go, but I can't (laughs).

I: Right. So do you think that now it's hard for people because it's already started.

I mean people have already gone. Some people six times or whatever it is. And then now it feels like they really can't do it anymore.

R: They can't go because they think it's going to be you know, like "Well, everybody knows each other and then I'm just going to be there. I'm going to be there and I don't know anybody."

3. Suggested changes

a. Meetings should be more social and interactive

Based on interviews and observations, the students wanted the opportunity to interact with one another at these meetings. Students enjoyed the meetings that involved listening to a speaker less. In the following quote a student expressed this view.

R: I thought it was just horrible when...the lady came and gave the spiel on personalities and this test...

I: Why did you think it was horrible?

R: It just seemed that she stood up there [and talked] and I thought [the meetings] should be more based on like people getting involved and doing something. And there were only, I don't know how many of us showed up, about 20 of us were there and she gave this whole thing about, I don't know personality tests, she talked about personality tests for [a long time]. I don't think anyone was interested in these tests. If she had just said it's a personality test and it can show you this, it's a lot better than finding the whole history and who started it.

He went on to emphasize that what he disliked was that the students "all sat by themselves" and "listened" to someone lecture to them. This quote illustrates his desire for the meetings to facilitate interaction among the students.

I: Yeah, so tell me what you mean, you say that you think it's more of like people that get involved and do things as opposed to her standing up there.

R: Yeah, like [at the] first [meeting] we got to sit around and get to know everyone's name, just sit around and we actually got handed a thing to solve something, solve a problem with ten people. Then we actually all got to work together and figure out what we were gonna do. This time we all sat by ourselves and had to listen to some lady speak and got this bubble sheet and filled in bubbles, that's all we did. Then after, we didn't even talk about it we just handed them in.

Two other students made similar comments:

R3: [The meeting about the personality tests was] interesting, but she kind keeps talking and talking and talking.

R2: Yeah. And here's me [saying], "Oh, look at the time." I was so rude. But I was just like, you know, we were supposed to be here for an hour. We don't have to be here. And that's the second meeting that she's been there you know. She was there like fifteen times or whatever.

b. The meetings should focus more on the three courses and provide a forum for group study

A few students indicated that they had expected the Freshman Learning Community Program to focus more on the classes. These students had expected the Monday night meetings to involve small group work and were disappointed that the program focused only minimally on the three courses. [Note: Most interviews were conducted prior to the first group study sesssion.]

R: I got a brochure in the mail on [the FLCP], ...and I chose it just because it sounded like a good idea to get in smaller groups and work with some people you didn't know. I think that [aspect of the program] has been a little slow [to materialize].

I: How so?

R: We don't really get into group work a lot yet. It's pretty slow that way. We've met a lot more people. We know everybody in our group now. But -

I: In your discussion section?

R: Yeah. But the learning community is broken up in three groups, L1, L2, and L3. Number-wise there's not as many people from each group showing up for meetings. We've had poor attendance. Which - I don't know, could be because this is the first year trying this I guess. But I just wish more people would show up so we can actually be in some groups, instead of two or three people in a - about eight or ten together.

This student went on to say that he wanted the FLCP to facilitate group work that focused on students working together on difficult problems. He felt this would give the FLCP students an advantage over other students who were not in the program.

R: ...[If I were designing the meetings] I'd say focus on doing some - doing some more group work on homework stats and challenge problems. So that we actually know more than the people that are in this group. That we have an advantage over the rest.

I: So what would challenge problems be like?

R: You know, on problem sets...the first 25 are easy, the next 25 are OK, and the final 25 are probably never going to be on an exam, but if you know those you are going to know everything. So I think if we work on a higher, higher ranked problems, whatever you want to say it, it would be a lot easier to succeed on exams.

He felt that although he has put energy into the FLCP by attending the meetings and attempting to make connections with other students, he has not seen any direct benefit in terms of doing better in his classes.

R: ...it kind of feels like, "Am I going to these Monday night meetings, spending another half hour to write a journal, is that going to - is that helping anything right now?" I'm kind of disappointed right now because it's not doing anything back to what we've been putting in. We get - you know, we got to meet a lot of people. And that's real good. But I - I just - we just need to work in groups I think a lot more.

I: Be more focused on the -

R: On the actual studies...
I: OK. So you feel like the other stuff is a little bit more peripheral or just kind of like -

R: Right...The design of it is real good. Having the people in the same lectures and the same discussions. That works - that works out real good. But as far as out of class time together, that needs to be [more group time]...

One student indicated his expectation that the meetings would involve the FLCP faculty having "side bar" discussions with the students about issues related to the three courses and possibly their connections with engineering.

I: ...If you could like design the Monday night meetings, what would be optimal for you...?

R: ...maybe if we did certain things like we did that one time when we had the [a study group]. Yeah, we all got together and solved problems. Or even if you had like one of the professors or something in one of the three subjects come in and talk about something interesting, like "Side Bars [in a textbook], you know, not really on the topic we're studying, but like outside [of it]--what's happening now...coming and talking to us about nothing basically. [Laughter] I was expecting [the meetings to focus on] learning more about the subject, not really what's in the classes but aside from that--how to know it better, learn more.

I: Going deeper?

R: Yeah, exactly...I figured we'd have like different people come in each time and have us do different things. Like one time we'd have a psychology person come in and give us, like other notes in psychology and what's going on today in psychology, same thing with chemistry and calculus. Or how it applies to engineering, something like that.

B. Journal Writing

Note: Over half of the students were interviewed after having completed only one journal assignment.

1. Primary benefit is realizing that these three courses are related: Degree of impact varies

Most of the students interviewed to date said that the journals helped them realize that one could find connections among the three courses.

I: ...So was there anything that you learned from doing this [journal]?

R: That everything is kind of connected. Because calculus takes math and psychology a little bit also. And both psychology and chemistry are sciences. And they kind of play [different roles in] a lot of the same things...I guess math is kind of a building block for me for the sciences...you need the math for the sciences...[I'm learning] just to kind of incorporate everything. You know, everything incorporated into one - everything works together.

****

I: ...So what about the journal writing, can you tell me about that?

R: Yeah. I guess it really surprised me because I never really thought about how they were connected. I had never really given that much thought, and when this assignment came out of the blue I was a little blurred, but when I sat down and actually thought about it I realized that there were concepts of math in both psychology and chemistry. It takes a little thinking to figure out exactly why or how.

The degree to which this realization made an impact on these students varied widely.

a. Connections limited to journal context

Most students indicated that although they found connections among the three courses by completing the journal assignment, the three courses were still quite separate in their minds.

For example, the following student said,

> R: I think the journal just connected things a little bit more...I guess I still don't give it much thought until it comes time to write another one.
>
> I: Okay, so it's still just like calculus, chemistry, psychology.
>
> R: I mean, I can see how, I can see how they are related in a way, but still, I can see how chem and math are related [more so] than psychology. I mean, it does tie in, but it takes a little bit more reaching I think.
>
> **********
>
> R: I don't think it'll make me think about the classes on a whole, like as three. Like when I'm doing work in one, I don't know, I don't know if I can see myself relating oh, calculus to psychology.
>
> I: How come?
>
> R: I don't know, it's not so they sort of are pushing [the idea that] you'll [do the journals and] see that they all combine and I can't see myself like working on calculus and thinking thoughts about psychology. I just never related it that way...I can see how they're sort of related like in their own way, but I can't see working on calculus and thinking of psychology or vice versa. I just see them as separate, I don't see them as together.

Our discussions seemed to indicate that for some students the journals are simply an assignment and that they do not believe the journal writing will foster greater understanding of the three courses.

b. Finding the connections increases understanding or motivation

Two students valued the journal writing assignments because the journals had either increased their understanding of the course concepts or their motivation to do well in these introductory courses.

The student quoted below stated that finding connections between the courses helped her better understand the material.

> R: But I think doing [the journal] helps a lot...I know that if I wasn't pushed to do it, I wouldn't do it right now.
>
> I: How might it help you? You said it helps a lot.

R: It helps because I understand chemistry more than I understand the other two [better]. If I can relate everything in a circle it helped you know, to get the major concepts. It's like "Oh, well this [happens] because this goes up. That's like you know, the gas thing or you know." (laughs) If you can relate things that you've seen, (pause) you can - you start like a circle going in your head. (laughs)

I: No, this makes total sense what you're saying. (laughs)

R: But it - you make like this complete circle. And so everything starts to connect and you start to understand other concepts better too. "Well this - Oh, well you mean this theorem? Oh, that's just like this in psychology or just like this chemistry."

One student explicitly discussed how the journals helped him see the applications of the three subjects to the real world. He noted that this increased his motivation.

R: [The journal] took your focus away from studying purely calculus. Of just x's and y's and numbers. And it made me realize that you can take a function and apply it to a psychological examination or chemistry, things like that.

I: So what does that do for you?

R: It changes the perspective. It doesn't make you look at something and say, "Well one number plus one number equals this." You can actually use it in a real life situation.

I: OK. Does that change your feeling about the three courses at all or?

R: Yeah, it actually makes you work harder in the course because you know it's going to actually fit in someday, somewhere. A lot of people that don't take these classes are never going to have thought about their likeness. They'll probably just say, "I'm never going to use this again." But by writing in that journal I think we have to find ways that what we would use in calculus and chemistry again in the real world.

I: OK. Yeah. So does that give you more motivation, yeah.

R: Yeah, it's more motivating to know that there is actually a purpose behind it...It only takes a little bit of your time to write up a little journal. No big deal. But it's going to help because it just keeps us focused, instead of drifting off and saying, "I'm so far behind. It's never going to matter." So it keeps you tied down.

2. Inhibitors: For several reasons most students put little effort into the journals

Most students indicated that they did not spend much time on the journal exercises. Some

indicated that the assignment basically involved looking through their books or notes for graphs of functions.

I: ...How did you go about [doing the journal assignment]?

R: ...I didn't really see it at first but, I saw a little bit, I just figured, I just thought, "What are we doing in psychology?, What are we doing in math?, What are we doing in chemistry?, and I just filled it up, signed it, and got it in.

Students gave the following reasons for their lack of effort on the journal assignments.

a. It's just extra work and that's not why they joined the FLCP

A few students explicitly discussed their feeling that the extra work they were required to do because they were in the FLCP was "unfair." They also indicated that they joined the FLCP because they wanted to be co-enrolled with other students, and were not anticipating extra assignments. They had expected that the FLCP would "make their lives easier," and felt the extra assignment just made their load heavier. They generally discussed these feelings in the context of already being overwhelmed by their schoolwork.

I: ...Can you tell me about the journal that you wrote?

R: Yeah...To me that was just like extra work. I mean, cause - but I didn't...really...try that hard on it. I didn't look for examples. I just gave examples that I already knew off the top of my head. So I didn't really learn anything from it, and it was just kind of like extra work. You know, it's something else you have to do that night. So I don't know. Especially 'cause it just seems like--I don't want to say unfair, but I can't really think of a better word--that just 'cause we're in a learning community and that's supposed to be beneficial to you, or whatever, that we have extra work to do, you know...And it just kind of upsets me that you have to have a bad thing with the good thing. I don't know. I mean, it'd be one thing if it was maybe a different major, but from what I've heard, pre-engineering is one of the hardest routes you could take as a freshman, so I don't know. It's just not good that we have more work now.

****

I: So what about these journals? Can you talk about the journal writing?

R: I don't really like that. That's kind of a pain.

I: Really? How come?

R: I don't know why. I don't understand. I think it's just kind of pointless. I think

the biggest thing in the learning community is like knowing faces and names and getting study groups together. And like the Monday night things. I think that's the main [idea]. The journal is just like a pain in the ass. Maybe they give like insight if people want it, you know. But a lot of this is kind of bull. Like what you put, it's like you know, "I'm graphing in calculus and there's graphs in chemistry. So that's how they relate." Like, I just try and fill up a page and don't really care since it's not like graded or anything. Because I have more important things to do.

...Like when we first got [the journal assignment] we were like, "Why?" ...It's like, "I didn't sign up for this." Like [so they would] give me an extra thing [to do]. I have other things to worry about.

b. Functions are limited: The three courses are not strongly related

Most students indicated they could only find a few functions. Some discussed their difficulty in finding connections with chemistry and others with psychology.

I don't know if there's ever going to be anything like that in chemistry, with functions like that, so....[On the first assignment] I didn't write about anything in chemistry because I didn't see anything that they wanted us to write about. [In psychology] there was like the shoe size versus height function and there was the, what was the other function, it was the number of people in class that are a certain height, and then yeah, a function like that. So, you know, it was just those two functions and you know, I drew the graph and then I explained, you know, why it was a function and stuff about the function, and that was pretty much it. That was all you could do.

****

I: Okay, what about the journal in the learning community? What about, what did you think of when you did that exercise? ...

R: Oh, I really didn't, I just made some one word connections. We weren't that in depth in any subject to write that.

I: A little early?

R: Yeah, definitely. And this week's is going to be too.

****

There are not all that many [connections among the courses]. I mean, the connections that there are, are pretty basic. They're kind of boring graphs and pretty basic.

A few students noted that the content areas of the courses were not strongly related.

I: ...aside from the journal writings, are there ways that you see that calculus and chemistry and psychology are connected?

R: Um (laughs) not really, actually, to be honest. I feel that besides the obvious that psychology is a science course and chemistry is a science course, I just - I don't know. I mean, math and chemistry I think are a lot alike just cause they - like, with numbers and equations and things like that. Psychology I feel is just not really like either of them, but it's more like ideas and disorders and learning, whatever. You know, it's more reading rather than writing. It's not busy work, it's much more like thinking. Actually, calculus and chemistry are thinking also, but I don't know. It's more of like a kind of ..?? (183) as compared to, I don't know, the quadratic equation, or something. They just are two separate things.

****

I: So you do see that it is - the chemistry and math and psychology are connected?

R: In ways. Not like big concept ways.

I: So they're kind of connected, but -

R: Psychology is a little out there. It's kind of like stretching.

Another student who finds numerous connections between chemistry and calculus does not see how psychology is connected.

R: ...now that you started thinking about it, it's a lot easier to see how calc and chem connect...and actually in our textbook for math, we had chemistry related problems. So it's - it's (laughs) kind of funny to see like a chemistry problem in a math book with like the math applications applied to it. But it's helped to see that you know, these aren't totally unrelated courses. Although psychology, I still don't know how it fits, but you know we're (laughs)

I: Working on that one. (laughs)

R: Yeah, still working there.

c. Initial confusion about the assignment

Many students related their initial confusion about the assignment. They did not know how detailed to be in their descriptions of functions found in chemistry and psychology. After the first assignment was turned in, the calculus professor distributed a hand-out clarifying the assignment. Students indicated that after receiving the hand-out they had a better understanding of what was expected from them in the journal assignments.

d. The assignment isn't graded and therefore isn't taken seriously

Many students mentioned that the journal exercise was not graded. For a few students this significantly affected how seriously they viewed the assignment.

> I: Have you been able to write about some connections to the psychology and the math?
>
> R: Yeah, it's all kind of [minimal], because usually I get it done in like five minutes because I've been studying something and I just forget about writing the journal. I get to calculus discussion and just whip it out.
>
> I: So what difference do you think it would make if it was graded?
>
> R: I would put more time into it probably. Easily.
>
> **********
>
> R2: Well, [because the assignment is required, but not graded] it makes you want to do it, but not necessarily do it well.
>
> R1: It's like you're going to do the stuff that gets graded first, and a lot of times it doesn't leave you as much time to do it.

e. The assignment is the same every week

One student indicated her concern that the journal assignment was to be the same every week. In the following interview excerpt three students discuss the journals.

> R2: I don't know think it's really necessary. I mean, it's nice to see how it relates and stuff, but
>
> R3: But every single week we have to do the same exact thing and it's like, you just pick out functions, you go in your psychology book or something and find a graph, then explain what it is, you know? I don't really see--
>
> R2: I mean, it's nice that it's not graded or anything.
>
> R1: Maybe once would work.
>
> R3: Or maybe if he gave us different assignments each week to work on instead of that.

3. Evaluator's Viewpoint

It seems understandable that students have found it difficult to find connections among these three courses, given that all three of the course instructors found the task of fostering interdisciplinary connections extremely challenging. The students seemed to express that this exercise of finding links among the three courses was forced and that they had little to draw upon.

Perhaps the instructors needed to orient the students about the purpose and the potential benefit of this assignment. Given that the idea of finding connections among seemingly divergent content areas is new to these students, they may not understand the value of such an enterprise. The following quote illustrates that the students do not understand the "point" of the assignments.

> I: So tell me what you've done for the assignments? What's been your thought process and what do you focus on for the journal assignments?
>
> R: I don't even remember. The last one was a while ago...
>
> I: So what's your thought about having to do it?
>
> R: I don't like it. It's kind of a chore. (pause) I guess it must be important to somebody.
>
> I: But you can't figure out why?
>
> R: No, I really can't.

Students do not understand the intrinsic value of this assignment, and they perceive that the assignment has no extrinsic value because it is not graded. Therefore, it is likely that the benefit from the assignment will be minimal.

C. Gender composition of discussion sections

The students in the all male discussion sections commented that it was "weird" to be with all guys.

> I: So what's it like to be in a discussion section with all men, or two discussion sections?
>
> R: When I signed up for it, I swear I saw girls on there, but that's not really why I signed up for it. I don't know. ...It's a little different.
>
> I: How's it different? I'm sure in high school some of your classes were at least

similar, but I don't know if they're that...

R: Yeah, usually they're half and half or more women than men.

I: Do you notice any difference now?

R: I don't know. I guess everybody kind of keeps to themselves a little bit more.

One said that it was also easier to relate because they were "all guys."

I: So what's it like to be in the all male learning community section?

R1: It gets a little boring at times too. (Laughs) But then it helps because there's nothing to look at... But, the guys who I am with right now, we can talk, so actually because we're all guys actually. Sometimes I think it makes it easier.

D. Because this is the first semester of the FLCP, student experiences are not shaped by the reputation of the program

One student discussed the fact that because this was the first semester of this program, there was not a reputation on which the students could depend. This created some uncertainty and questioning as to what this program would do for him.

R: ...It's going pretty good. It's strange though. It feels like we're the test run. They've never done it before. And I just - I hope it - I hope it turns out in the long run because it sounds like a good idea to get people working in groups. Then again these meeting are kind of tedious right now.

I: ...Well um, how does that make you feel like you're on the test run. I mean what makes - what -

R: Well just like it's never been tried before, nobody knows what to expect, nobody knows if we are going to actually get into groups and do homework together. Things like that. If it's going to help our grade in the long run compared to the other students. So -

I: Yeah, nobody is going to say, "Last year, this happened." Or, "I got this or that out of it."

R: Right.

III. Recruiting and Enrollment Issues

A. Conceptions of the FLCP Prior to Entering the Program

Students held varying conceptions about the purpose and character of the FLCP prior to entering it. Below we discuss the range of initial conceptions of the FLCP.

1. Expected a "helping community" with social aspects

Some students believed the FLCP would offer a way to meet people and get help from other students.

> I: OK. So what about the brochure appealed to you when you first got it? Why did you think it would be good for you?
>
> R: ...I don't know, I guess that it would be...kind of like a helping community. And I would be able to get help and it would help people and share ideas and stuff like that.
>
> I: ...Are there other things you were hoping to get out of it besides that?
>
> R: Yeah, interaction with people, like social aspects.

****

> ...I guess I thought it would be easier, you know, to form study groups or whatever. We can sit down and work on three classes at once, you know. It would be nice to form some friendships out of this which I think I'll be able to. You just see the same person in all of your discussions. I guess, I wasn't exactly sure what I wanted out of it, I just I thought it sounded like a really neat opportunity so I grabbed at it.

One student said she was seeking students with similar interests:

> I wanted to get to know some people who have common interests...You know, you just run into all of these people and how are you supposed to know who thinks like you, who likes the same things. This really led me to people with similar interests and also it's nice having someone to call when I'm having a study emergency and say, "I don't know what I'm doing!" It's really nice to have that.

2. The brochure made it look like it was a "group study thing"

As discussed earlier, students indicated that they thought the learning community would involve more groupwork. When asked how the learning community was meeting his

expectations, one student said,

> R: I don't know. I thought there might be a little more - I pictured, like, group study things...that's what I thought the brochure was talking about.
>
> I: Okay, like, so the Monday night meetings would be people getting together and studying?
>
> R: Yeah.

3. It's for people who are struggling and need help

A few students felt initially that the FLCP was primarily meant to serve students who are struggling in their courses. In the following interview excerpt a student talks about his impressions from the brochure. He didn't feel the program was for him.

> ...I was thinking this was probably a good idea maybe for kids who think they'll be struggling or something like that, but it just, you know, I just right away thought, "This isn't for me." So I just put it along with all the other brochures.

He signed up for the FLCP, because he wanted a guaranteed class schedule. This above student's experience with the FLCP has been shaped by his initial impressions. He has found that most of his coursework is quite manageable, and does not feel in need of help. Therefore, he feels no need to draw upon the learning community.

> [Because I am a first-generation college student] I came in not knowing what it was going to be like and if it was going to be really difficult. So I thought maybe, with the learning community, if I needed the help, I know that it would be there. Sc far I haven't really needed the help

4. It will limit the number of people I meet

One student related her initial disinterest in the FLCP because she thought it would limit the number of people she would meet. She did join the FLCP, however, because she wanted a guaranteed class schedule and is very glad that she did.

> I: ...So, why did you sign up for [the FLCP]? How did you find out about it?
>
> R: Well, Ian McIntosh was in the engineering room at SOAR, and he was talking about it. I was just kind of listening, but I wasn't really--for some reason I just decided that I didn't think that I wanted to be in it...I was thinking that I'd just always be with the same people day in and day out, and I wouldn't meet anybody else except for the same 20 people that were in my group. And I didn't really want that. I'm like, you know, "I want to meet as many people as possible, so maybe I should

not sign up for it." Then I realized I had my chemistry 103 and math 221 and psychology 202, and then [Ian was] like, "Why don't you sign up for the learning community?" I was like, "Well, I'm not sure." It kind of came down to that if I didn't sign up for it I might not get the hours I wanted. You know, I might have to take more night classes and things like that. So it's like, "Well, I guess I'll sign up for it." Now I'm just really glad I did.

B. Essential Element in Successfully Recruiting Students into the FLCP Was the In-person Contact with an FLCP Staff Member

Although a few students indicated that when they received the FLCP brochure, they felt the program would help them adjust to the UW and were drawn in by the brochure, other students remarked that they did not decide to enroll in the FLCP until they heard about it at SOAR.

> And I went to SOAR. And I was thinking about it, I wasn't sure, but I was thinking about it. And then the learning community leader, Ian came in to SOAR and talked to us about it. And when we were talking about our engineering and what we needed to graduate and everything else, he came in and talked to us about the learning community. And I thought, "Well you know, it will be a good chance for me to meet a bunch of people, like 20 people." Which is a small group compared to the 40,000, but you have classes with these people all the time. You get to meet new people. And then you can start branching off from there. Like you meet people through people through people.

One reason that a personal explanation of the FLCP was essential is that students received large quantities of mail from the UW the summer before attending. Students indicated that although they remembered seeing the brochure, it got "lost in the shuffle," and it was not until they heard about the FLCP at SOAR that they decided to join.

> R3: Well, I got letters about it, but I never really thought about it that much. I mean, you get so much and you read it and put it away and forget about it, you know. But then when [Ian] talked about it I thought, "That sounds really cool. So, OK."
>
> I: What made you think it was cool?
>
> R3: Well, just that you're with the same people, so it's easier, you know, to--
>
> R2: Get to know them.

C. Joining the FLCP Affected Students' Course Choices

To some extent, enrolling in the FLCP affected students' decisions about which courses to

take. Many students were not planning on taking psychology, but signed up for it because it was part of the FLCP.

One student indicated that he had been considering taking Chem 109, a higher level chemistry course, but because he wanted to be in the learning community, he registered for Chem 103. A the time of the interview, most of the material in Chem 103 was a review for this student.

D. For Many, Having a Guaranteed Class Schedule Was a Primary Selling Point

For many students, having a guaranteed class schedule was a factor in their decision to join the learning community. For a few students, it was the primary factor in this decision. For example, one male student relates his story of registering at SOAR:

> I: ...So how did you find out about the learning community?
>
> R: I found out when we split up into groups at SOAR. And I did classes, like make our schedule. Ian McIntosh was in the group I was with. He had said something about it before. And at first...I had no clue what it was, really. I just wanted to get the classes. And then I was trying to schedule my things, and I was just like, "This is just like a big pain in the ass." So I was like, "Alright". You know, I looked and I went and asked him what that was all about...So he just showed me...I was like, "Alright. That sounds kind of cool." So I signed up and got all my classes in there. So it's pretty much just because it was kind of easy to do.

E. Suggestion That the Description and Explanation of the FLCP at Soar Be More Thorough and Heavily Emphasized

One student who joined the FLCP primarily because it made scheduling classes easy, suggested that the explanation at SOAR be more prominent and thorough. He implied that it was not clear to students what the FLCP would do for them.

> R: I think it's a good program. Like on the whole. Just because it does make it a little bit smaller for people that would be overwhelmed with it and everything. But I think they should talk about it more in SOAR. Like emphasize it. Like either the beginning when people are at least paying attention or something. Because I think it does - I mean I don't see how it can hurt at all getting to know more people for study groups and things like that.
>
> I: OK. So you think the more people that are in it, the better it would be?
>
> R: Yeah. I think so.

Earlier in the interview he said,

R: ...[I joined] pretty much just because it was kind of easy to do. [The coordinator] explained it pretty well, but I mean just hearing about it from that - I mean a lot-of people were probably hesitant.

I: Well tell me more about that. What do you remember him saying?

R: ...He gave a brief overview and stuff. A lot of people were just like, you know, listening to people all day from SOAR. They were just [so many things to hear about]...

IV. Evaluator's Viewpoint: Importance of Orienting the Students

A. Students Need to Be Informed about the Structure and Goals of the Learning Community

Because students lack a frame of reference for understanding the nature of learning communities, it is important that they receive an orientation to the FLCP. If students are informed about the goals and structure of the program, they will be able to determine if the program is appropriate for them and will have accurate expectations of the program.

B. It Is Important That Students Join the FLCP Because They Seek the Intended Benefits Rather than the Peripheral Benefits

Some students who were initially uninterested in the FLCP joined because they were guaranteed registration in three classes. These students have indicated that they are not experiencing many of the benefits that other students have reported. At this early stage, it seems that these students do not seek some of the intended benefits of the FLCP, and therefore, they have not put forth much effort to make social connections with other students. Having large numbers of students like this could potentially inhibit community formation. On the other hand, it is possible that some of these students will indeed benefit from the program in ways that are commensurate with the program goals.

C. Tas Need to Usher the Students into the FLCP

Because the TAs have the most direct contact with the FLCP students, they can play a major role in shaping the students' expectations and understanding of the program. This semester, the TAs did not become fully oriented to their role in the program until a few weeks into the semester. This meant that the TAs were unable to play a role in fostering a sense of community among the students in discussion.

For example, one student indicated that at the beginning of the semester, the TAs simply said, "OK. Let's start class."

> I: So what do you think now? Is [the FLCP] meeting your expectations?
>
> R3: I think so, in part. But still I don't know some of the people in my lab, you know, like within my group [discussion sections]. Because we never were--in our classes and our discussions they just said, "OK. Let's start class." I mean, they never really had anything where we got to meet everybody in there, and a lot of people don't come to the meetings.

Her comments suggest that the community formation could have been enhanced in the discussion section. This would have required that they TAs change the traditional way of conducting discussion section.

Part Three: From the Perspective of FLCP Staff

In this section we present the perspectives of the Freshman Learning Community (FLCP) staff members. These staff members include the course instructors, the Program Director, the Program Coordinator, and a member of the New Traditions Chemistry grant leadership group. We refer to the Program Director, the Program Coordinator and the New Traditions leadership group member as "grant participants."

I. Primary Goals for the Freshman Learning Community Program

The FLCP staff expressed divergent goals for the FLCP. While for some intellectual connections among the three courses was the primary goal of the learning community program, others indicated the primary goal was increasing the retention rate among pre-engineering students. A goal that was shared by all the FLCP staff was fostering social connections between the students, though none of them indicated this was the primary goal for the learning community.

A. Intellectual Connections

For three of the FLCP staff the primary goal of the learning community was to foster intellectual connections among the course cluster of calculus, chemistry and psychology. They discussed the tendency students have to "compartmentalize" knowledge--to isolate concepts learned from different courses in separate "mental boxes." They hoped the learning community would address this problem.

> I: Well, let me just ask you, what do you think the real goal of this type of learning community is? This one that you're involved in?
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> R: Well, I do assessment [of student learning]. And one of the things which has really shown up [in my assessment work] is that students do not carry away their calculus, they don't carry away their math skills to the other courses. And you can argue that that's a problem of just not retaining, but I don't believe that's the real problem. Because I think if you ask them the same questions phrased back in the context of the courses, they could probably do most of it. I think the problem is that they don't know how to apply it in a strange situation. Well, if that's the case then I think it almost becomes an issue of maybe something somehow--it's not that we are not teaching the right subject material, it's not in the subject, it's in the way the subject material is done. And I don't know for sure, but you know, I am an educator, I am being paid. If I do admit that this is a problem or do agree that this is a problem, than it behooves me to try something which may help. And it seems perfectly plausible that integrating them right off the bat may be the way to do it.

One faculty member related that success for the FLCP would be if the students were more facile in each of the three disciplines because of the intellectual connections the learning

community fostered.

> Well...if it's had any success at all, [what] you should see is students having a much more facile time thinking about calculus as they're doing their chemistry final. One would hope.

This faculty member raised the issue of what to sacrifice in terms of content coverage when deciding to emphasize the connections between disciplines.

> You know, maybe doing these things [emphasizing connections between courses] you might actually learn sort of maybe less technique. Because - because you might have to sacrifice less technique for more color. You know, to talk about - talk about the laws of physics you got to take time away from technique to talk about - so you leave something out...You leave some stuff, and you know, it's tug, it's a tug, you gain a little. So...those are not easy decisions. I have no problem thinking about leaving stuff out.

One faculty member indicated that he viewed all other benefits of the learning community as related to achieving the goal of fostering intellectual connections. He noted that,

> They can go drink beer, but while they are drinking beer they should be thinking psychology, they should be thinking chemistry, they should be thinking those things.

Although fostering intellectual connections was not the primary goal for some, it was a seconday goal.

For some, fostering intellectual connections was not the primary goal, but for most it was a secondary goal. A faculty member stated that,

> I think if you're going to put classes together like this, then you're in a wonderful position to [foster interdiscipinary connections]. I don't know if I'd call it a goal of the learning community. I'd say that it's just a wonderful opportunity that's presented by the learning community and you ought not screw it up.

The views of the FLCP staff who indicated that fostering intellectual connections was a secondary goal for the FLCP are presented in parts of the following sections.

Basis of Community: Co-Enrollment in the three courses

The FLCP staff not only differed on their primary goals for the FLCP, they also differed on their beliefs about the basis on which the learning community would form. At least one of the faculty members who seeks to foster the primary goal of intellectual connections felt that the basis of community in this program was co-enrollment in the three courses.

> [When I first was asked to] think about the Monday meetings, my first comment was, "I didn't even know there were Monday meetings in this group." ...Then I...looked at the list of Monday meetings and I remembered that there was the [CoE's counselor] coming in about advising. There was the counseling person...and here I was sitting at this dinner [that was arranged for the students and faculty involved in the LC] and there was really you know, no talk about these three courses at all. (laughs) And that's what - that's what the community is, is these three things. It's not being a general engineering student.

1. Implementation strategies

The FLCP staff described several strategies through which the goal of facilitating intellectual connections could be achieved.

a. Monday night meetings: Focus on courses and interdisciplinary connections

One faculty member felt that the Monday night meetings should focus on the three courses and the connections among them. He envisioned having the faculty take turns coming to the meetings and having discussions with the students.

> Yeah, I mean you know, I might - I mean I haven't even thought of this until you sort of triggered me. But you know, if you try - I would try [in the Monday meetings] to maybe stick more to mathematics, chemistry, and [psychology]. If that's the basis of your community rather than hear from someone from the counseling service - if you want to build that community you know, maybe make it much more subject specific where maybe [one faculty member] comes in one week and I come in one week...[the faculty] can stimulate the students in the three areas. You know, [the calculus professor] could go on and ask them what they are learning in psychology and [the psychology professor] could ask them what they are learning in calculus and [the chemistry professor] could come in and ask them what they are learning in psychology. You know, they'll explain to novices you know, just to mix us up "You explain to me what you're doing in the subject I don't know." I might do more of that...

He suggested that the Monday night meetings should incorporate more discussions facilitated by faculty rather than having resource people from the CoE come and talk with the students.

> I: [You would prefer that the faculty have discussions with the students about the three courses], rather than having somebody coming from engineering?
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> R: Yeah...Do we really want engineering? Because the advising and that stuff, they get that. So this is all community, give us all community. .

He went on to explain that students might feel more comfortable having discussions with one

professor, about the two courses that this professor does not teach.

> ...Because that makes students some times feel a little better like, if they can tell me about something I don't know about. You know, then they will feel more comfortable talking to me about stuff I don't know. So maybe if they feel funny about talking to me about [my course] but they might not feel as funny -
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> I: With [one of the other two courses]
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> R: Or [the other course], which I'm an absolute illiterate [about].

b. Journals: Students formulating interdisciplinary connections

One FLCP staff member indicated that intellectual connections would be fostered by the "journal writing assignments" given by the calculus instructor. The journal assignment is described below.

> [I'm saying to the students], "In these two courses you are coming up with functional relationships, things that are changing. Chemical situations. You've got the hydrogen ions, and you have temperature. And those things are related. And...they're talking about...how hydrogen ions are changing with respect to temperature...And I want you to come as close as you can to describing what that relationship is. And I want you to tell me, 'Is it linear, is it non-linear?' And I want you to frame what you think that function is. And you know, you're going to have to work. And it's going to be a little work to do it. And similarly in psychology, I'm sure they're talking about sensation and they're talking about how your senses are reacting to stimulus. So sensations are a function of stimulus. And if you increase the electric shock. If you increase the amount of voltage, you're going to get a larger shock. That's a relationship. I want you to try and explain that relationship as a function, tell me what the inputs are, tell me what the units of the outputs are, is there a derivative, what's the rate of change, what's the physical interpretation of the rate of change."

The faculty member who assigned the journal writings relates that he did so in an effort to prompt the students to integrate the courses themselves:

> ...most of it is - is being put back on the students. I'm having the students in each section write a page every three weeks...And I'm leaving the integration sort of to them...You know, but these are functions taken out of their courses...that's their problem...basically what I'm really doing is sort of sitting on them, sitting on the students to process the material from those lectures in terms that they're getting in my course here.

As discussed in the following section, this faculty member placed the primary responsibility

for interdisciplinary integration in the students' hands.

c. Exchange of course materials

Two faculty members have provided each other with materials and examples that link their courses. This has enabled them to give examples in lecture that faciliate interdisciplinary connections between the two content areas. In addition, at least one faculty member has given his TAs the materials he received from the other instructor and encouraged them to use examples from the materials in their discussion section.

> Yeah, [one of the other faculty members] sent me some material which I reproduced and gave to the TA's and told them what I wanted out of this...So they've been doing a little bit...I [gave them the materials and said,] as much as possible use these examples."

This faculty member went on to say that the TAs did not play a critical role in fostering intellectual connections.

2. Inhibitors to implementation

Each set of goals and strategies is coupled with problems that "inhibit" successful implementation. The inhibitors to the goal of facilitating intellectual connections are discussed below.

a. Faculty members were not instrumental in creating learning community

Several FLCP staff felt it would be difficult to foster intellectual connections because the faculty members did not create this learning community. They discussed several elements of this inhibitor.

1) Faculty members find it very difficult to link these courses

The three instructors expressed that they found it difficult to link the three courses. Instructors feel the links among the three disciplines are much more prevalent in higher level courses.

> R: ...It's sort of very hard to come up with common material. I mean I looked and looked in all of Thomas and Finney, big fat book. There's like two or three problems having to do with chemistry and none of them in beginning chemistry. They're all using differential equations or rates. So just there's no easy source. I mean there's certainly mathematical overlaps with chemistry, but not with any real easy sources.
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> I: So it's been a struggle.

R: It's a struggle to come up with material. So that's why [the students are doing the journals], which is useful, could be useful. But you know, I don't know and it's the best I could think of doing because I honestly even know if I could have ever--even if I spent all summer looking--don't know if I could have really come up with a ton of good material in [the other two courses].

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In chemistry, I was going to see what came up. I started in neurotransmitters and looked at whether showing the shapes of these - I could have done it, but it doesn't make it into the first year of chemistry, because all the chemistry's biochemistry, and biochemistry is junior year...All the chemistry is too complicated. They're not ready for it.

One instructor suggested that in the future if a learning community were formed and faculty found it difficult to link the courses a graduate student who was talented in both course areas could be hired to write material that integrates the courses.

One faculty member implied that the difficulty he experienced in his attempts to link the courses was due to the fact that he did not choose the courses. Therefore, he could not incorporate his own interests and specialties.

R: ...[If I were looking for links with a] physics course I could find it.

I: You could find it. OK.

R: In a physics course, because I'm a little bit more used to physics applications. So it doesn't have to be physics. You know, it might require more work than that. But I would have chosen a subject that would have been my choice.

He goes on to say that if he were designing a learning community,

...I would not be looking at large numbers of students. I would be looking for courses which fit together in subjects here...I would have looked at the subject material. Where the subjects' material sort of fit naturally, but have not been in the past still connected. Biology, for economics, or for anything like that where it's a little more natural. ...And then I would spend all summer having a lot closer contact with the two faculty members and really develop some materials. And you would be working in areas which are very natural like, whether it's mechanical engineering, or economics, or physics. And that is a wealth of material. I mean in the book itself you could work - you could work only on the problems in Thomas and Finney with extra explanation. I mean here we are really sort of hurting for applications.

2) Two grant participants feel faculty lack knowledge about learning communities

Two grant participants discussed their perception that this learning community was not driven by faculty interest in making intellectual connections. In the interview excerpt a participant anticipates that the LC will be successful at creating social connections. This prediction is based on the fact that the goal of fostering intellectual connections did not arise out of faculty's personal interest in this goal.

> ... some [of the] faculty have never heard of learning communities before [they were approached]...So what's going to happen with this learning community? The faculty are people of very good will, and they've been meeting together, and [are] trying to make connections, but it's not driven by intense interest to make connections...And what I think is going to happen is that there will be a very strong social component to these learning communities, but not a very strong intellectual connection...

This individual went on to say that the students would still benefit from the LC even if intellectual connections were not made, but that they would not benefit to the maximum potential of this program.

> R: ...I think having this strong social connection with the students working together [is good]...I mean, working together on course A, working together on course B, working together on course C, rather than connecting courses A, B, and C--I think is very positive. That's something they didn't have before [the FLCP]. So the students have a lot to gain from this even if we don't make the intellectual connections, but I think it would be so much more exciting if we could make the intellectual connection...[Still], I think making the social connections is better than just leaving students out there as isolated individuals.

3) TAs not involved in planning process

A few FLCP staff discussed that because of the selection process used for hiring TAs, it was not possible to involve the TAs in the planning discussions. This means that at the beginning of the semester the TAs had little knowledge about learning communities and their role within this particular learning community.

> I: Have the TAs been brought on board to try and make thematic connections themselves?
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> R: The plan was - I thought that that would happen, but in fact again we run into the logistics...Ian kept asking us "Who are the TA's?" and the departments hadn't decided yet. Now I don't know exactly what's behind that, why they didn't know sooner. One of the things maybe though, this university admitted 400 extra freshman at the last minute. And a lot of those freshman wanted to take chemistry and calculus. And so there was just an incredible crisis from both the chemistry

department and the math department, trying to find graduate students or other people to teach those extra sections...Our idea has been in the ideal situation that the TA's would have been chosen last spring and been talking to each other over the summer.

Additionally, the TAs were not selected with the FLCP in mind. This is in part due to the fact that the departments have procedures for assigning TAs to courses. For example,

> ...math 221 and chemistry 103 are courses that incoming graduate students tend to be the ones assigned to. And the more experienced TA's...tend to teach a little more advanced courses.

In the quote below, a faculty member relates that if this learning community were more ideal, he would have chosen the TAs for their teaching ability and their background in the disciplines represented in the course cluster.

> ...if it was done in my model, I would pick the TA. It wouldn't be a first year TA...[because] number one, there's extra material there...I would want to pick a TA that [who not only knew my course but also had knowledge of the other courses in the course cluster]...It's just - you know, they're [selected by] tabula rasa, I know nothing about them.
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> I: Right, you don't even know.
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> R: I don't know how good they are as teachers, I don't know anything, how much they know...they've never taught before. So...that's another reason why you know, I might have done things a little bit differently.

b. Structural problems

FLCP staff discussed three problems with the structure of this learning community that made it difficult to emphasize connections between the three courses.

1) Only a subset of the students in the large lecture courses are in the FLCP

One grant participant pointed out that a problem with this learning community model was that only a subset of the students in the large lecture are in the LC. This may limit the motivation and ability of the professors to make connections between the disciplines.

> R: Now another very big problem with the...learning community is only a subset of the students are in the three courses, and this was arranged around the courses that engineering students take. So one of the courses is math 221, first semester calculus. One of the courses is psychology 202. Well a very small fraction of the total number of students in psychology 202 are taking calculus. So there are discussion sections for chemistry, discussion sections for calculus where all the students in that section are in

that learning community. So in what we're calling the [FLCP] learning community, there [are] three little communities...[with] approximately 20 students in each of those three. All of those 20 students are in the three courses together. But in addition to those 60 students there is over 200 who aren't in those.

I: And they're in the lecture. They're not in their discussions at all.

R: Right.

I: OK.

R: But it means that the psychology lecturer probably doesn't want to introduce any connections to calculus, because most of the students in his lecture aren't in calculus. OK. And the same thing with the calculus professor. A certain fraction of his students are in chemistry, but not all. So it's a little harder for him. He's actually going to take some chemical examples even though he realizes not everybody is in chemistry.

S/he goes further to say that with a different structure the faculty motivation level would be much higher.

I think if you took those same three faculty and they only had those 60 students, so they knew that all of their students were in all of the three courses, I think their motivation to connect would be much, much higher. And I think they would actually - if they only had 60 students instead of 300, I think they would feel they have more time also to spend on them. So I think their attitude would be different.

One grant participant discussed feeling that the LC structure involving large lecture courses with discussion sections did not allow enough extra time to spend on connections among the courses.

I: So in this model it sounds like you're saying that you think it's essential for faculty as well as graduate student who is pulling these together, Ian, to make those connections. That it can't - you think there's a problem with it only being thematically integrated in the small discussion sections.

R: That's right. Because you see, even in the small discussion section they have assignments for the main course. They aren't going to be able to spend those discussion section times making connections except to a certain [extent]- I mean, hopefully there will be some.

2). The psychology course lacks a discussion section

Two FLCP staff indicated their feelings that because the psychology course does not have a

discussion section, there was not a setting to give the LC students an opportunity to discuss psychology and its connections to the other courses. One individual suggested that because psychology did not have a discussion section perhaps the LC should only have been limited to calculus and chemistry.

> And psychology doesn't have any discussion sections. So - really I'm not sure how psychology is coming into this at all because there's not a lot of opportunity considering the fact that not everybody in psychology is taking chemistry and calculus, and there's no discussion section. So I mean, I think in retrospect maybe the connection should have only tried to have been made between chemistry and calculus.

B. Increase Retention Rates of Engineering Majors

For 3 of the LC program staff the long-term goal of the FLCP is to increase retention rates of pre-engineering students. One of the staff emphasized retention of women and minorities because research has shown that they are risk of leaving engineering within the first year of college. There were two overarching strategies that addressed this goal of increasing retention of engineering majors. One FLCP staff member described one model for achieving this goal and two FLCP staff described a different model for achieving the same goal.

1. Implementation strategy #1: Create a better learning environment for these students and reduce isolation

The Program Director discussed her vision of the LC, indicating that the long-term goal was retention and that the immediate goal for this semester was to create a better learning environment in which students would feel less isolated during their first semester at UW. In the following interview excerpt she discussed the Manufacturing Engineering Education for the Future (MEEF) Grant and how the learning community program will help meet one of its goals.

> R: The grant itself is basically supposed to be dealing with two big issues. One is preparing students for manufacturing and so you want to enhance the quality of engineering manufacturing education. And the other issue is to improve diversity in the student body, engineering student body.
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> I: ...OK, so how does the learning community fit into that?
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> R: The learning community fits primarily into the second part in that it is supposed to be dealing with issues of retention and trying to get students to have a better experience during their first year courses on campus.

She stated that the primary goal was,

> ...to enhance the quality of their learning experience by giving them a more supportive environment for learning, so that they don't have to learn in isolation. The ones who enjoy learning in isolation, I mean there's a diversity of learning styles, if they want to do that, they can do that all over the place, but if they want to bond and learn in groups [they can do that in the FLCP].

Basis of community: first co-enrollment and second pre-engineering

For the program director, the community is based primarily on co-enrollment in the three courses and secondarily on the fact that they are all pre-engineering students.

> I: ...So when you say have a better time at the University in that first two years, what do you mean specifically?
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> R: ...well a lot of times kids in the first year become very isolated. They come from a tiny little place, they don't know where to go in such a big place, so my goal is really just to give them the opportunity to have a smaller group of people to bond with, to work with. They are going to see them over and over and it forms a little network, instead of just being in all these big classes of 500 people where they don't know anybody. And then ideally they will, sort of, on their own, develop study groups and all that kind of stuff. It's not meant to be excessively structured. Structure is just in the administrative bureaucracy of how they're enrolled and the fact that they are co-enrolled in the different discussion sections and stuff.

The Program director described several methods for implementing her strategy.

a. Methods

1) Monday night meetings: Provide a social safety net and expose students to engineering

The Program Director feels the Monday night meeting serve two purposes. They provide the students with a social forum as well as opportunities to be exposed to the resources of the CoE and the engineering field in general.

> I: So given the goals that you talked about earlier, just making a better learning experience, having the students in a learning community, what's the role of the Monday night meetings?
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> R: The Monday night meetings would go more to the other goal about learning about engineering, getting some industrial info, and it helps the first goal in the sense that it might facilitate more some of their, you know, study group organizing, or whatever - gives them another chance to see each other in a different setting that's less formal...
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> I: What exactly are you hoping the students to get out of that as far as getting

exposed to the COE? If you could just ..?? (38) that out a little bit more.

R: Just so they will know what the resources are so when they run into problems they know where to go. When they're trying to make decisions about next semester and they don't know where to start, they know where to go.

She indicated the meetings served to provide a social "safey net" for students who felt isolated, but expressed that they were not an essential element of the community. She does not feel that low attendance at the meetings will affect the learning community.

I: So I've been going to the meetings, and the attendance has been pretty low, you know, in the beginning it was about a third and now it's dropped off. Do you have any thoughts about why that might be?

R: Well, I think probably they get no credit for it is the big reason, and their lives are complex. I probably wouldn't go either if I was one of them. I think of things like that as a safety net. It's a net that's there for the kids that need it the most, and they feel isolated and they're having problems and they need social contact. Freshman don't understand the notion of utilizing resources, and it's very hard to encourage them to really go after all the free things that are available to them. So the ones who are there are going to hear about a lot of those things, but it's one of the biggest challenges in a place like this. You find out kids in their senior year who never knew there was a counseling office, never knew there was - you know, se la vie. So I don't view the Monday night sessions as an essential ingredient, and I think that it's not a component that's in place in a lot of the [learning communities around the country]...So it's just sort of there as an experiment to see, are there a few who want it and need it, does it do anything for them.

I: So what effect, if any, do you think it will have on the students - well, on the community as a whole, if, let's say, only a sixth are attending?

R: It probably doesn't have an effect on the community as a whole. I think it's more a this little subset that finds something like that useful.

2) "Tracking" students

For the program director, the primary strategy for creating a better learning environment is co-enrolling students so that they have a network of support.

[I believe] the primary benefit to the kids is in social aspect of having, you know, being tracked through all these sections together...My guess is that the first order effect that the kids will notice and be able to articulate is the tracking, and the fact that they've got this built-in network.

b. Inhibitors:

1) Mechanism for recruiting at risk students not in place

The Program Coordinator stated that the mechanism for targeting "at risk" students--women and underrepresented minorities--for recruitment into the FLCP was not yet in place.

> R: [Ultimately I would like to]...channel at risk [students] into the [FLCP]. We don't yet have a recruitment strategy for the college that works so that we can get people into these safety net programs, and the people across the street are working on that, [but] that's not something we can control.
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> I: Oh, okay, how did you recruit for this then?
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> R: We were at SOAR, and we had a staff person there, Ian, most days or some other person. And you know, we'd go out of our way to encourage at risk students get into the learning community, but there's not much we can do...When I say at risk, I mean at risk of attrition--so, women and minorities. Debate has shown that they drop out of engineering at extremely fast rates in the first semester, So that was the goal, to try to push as many women and minorities as possible with the program. And we have a whole dean's office over there for diversity, but we don't have a machinery in place yet to really properly explain to students these things, and to lay out the options, [to say to these students,] "Here's a menu." So, all I can do is provide infrastructure...until the people over there [can create this machinery]. And they're new too, we have a new assistant Dean. And until they get, you know, the dust settled, then this is just sitting there for them, and then they can figure out how they want to use it.

2) One FLCP course conflicted with a course that many first semester pre-engineering students take

The psychology course time slot conflicted with the time slot for the CoE's Introduction to Industrial Engineering course. I.E. happens to draw a high percentage of women. This conflict limited the FLCP's recruiting base of female pre-engineering majors.

2. Implementation strategy #2: Usher the students into the major and field of engineering

At least one faculty member believed that the way to achieve higher retention rates of engineering students was to usher the students into the engineering major by helping them understand how their first-semester course work relates to their intended major. He discussed his perception of the current situation in which engineering students have little or no coursework in their major during their first year at the university and indicated his feeling

that this is the root of much of the attrition from the CoE. The FLCP served to mitigate this problem of minimal freshman year contact between pre-engineering students and CoE faculty.

> R: I think when I...talked to Denise [I understood that the FLCP]...vaguely has something to do with the fact that engineering doesn't offer any courses to their freshmen, and they're having a low retention rate. Even though they bring in very good people, they're losing a fair number of them. Part of it is cause they're doing...nothing on their own for freshmen, or were not until this point.
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> I: The College of Engineering?
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> R: Yeah. They have no freshmen courses. They send them off and let other people teach them, let other departments teach them, and then they're disappointed when a whole bunch of them go away. (laughs) So this is one effort to do something about it. Denice [Denton] can't change the entire College of Engineering, but she can do something outside the College to make sure when people leave engineering they leave it for the right reasons rather than for neglect.

He further described the problem he felt the FLCP was designed to address: engineering students' isolation and lack of understanding of the relevance of their coursework to their intended major. He discussed this issue in terms of positive and negative reasons for attrition.

> ...I never want to lose a good student because I've left them out hanging in isolation. I'm perfectly happy to lose good students from my department because they've gotten excited about something else...That's a perfectly fine way to have attrition...A perfectly horrible way to have attrition is that students are lost, they don't know any other engineering students, they don't see how any of this course works since their own college doesn't offer any their freshman year, they don't know how any of this course work has anything to do with the thing they signed up for as a major, the reason they came to Wisconsin. Those are horrible reasons to lose people, especially gifted students. So to think that you would lose them to another major because someone would...pay more attention to them or make it clear why they were taking this class as part of a major, that's the wrong reason to lose them.

He indicated that fostering interdisciplinary connections among the three courses is insufficient. The FLCP should act as a mechanism by which to "lay a foundation consistent with being a first-rate engineer."

> So if we were to consider a model [for the FLCP] where all they knew is why psychology has something to do with chemistry, and chemistry has something to do with calculus, and calculus has something to do with psychology, that is insufficient. We'd like them to see how those things cohere. We'd like them to see the links

where they can, but the most important way in which they should cohere is that...we're laying a foundation that's consistent with being a first-rate engineer.

Basis of community: Pre-engineering students

This faculty member discussed his belief that the basis of community in the FLCP was that all of these students were pre-engineering majors. In the interview excerpt below he indicated his feeling that the LC as it is currently being implemented does too little to promote this essential factor as the basis of the community.

R: This is only one implementation, and I actually have some doubts about whether it's the right or the best implementation.

I: You mean of a learning community model, by one implementation?

R: ...I think that what holds these students together isn't picnics or being in the same classes. What holds these students together is that right now they share a common goal, and [currently in the LC] there's relatively little about this as it stands in helping them to cohere because they have common aspirations. It's more because they get to know each other and like each other and learn their names and find themselves in the same places. But what's missing in my mind right now is what should hold these people together is they share the goals of becoming good engineers.

This faculty member believed the students would place greater value on the opportunity to make connections among the three LC courses to the field of engineering as opposed to simply making connections among those three courses.

R: ...What they share in common is not registration. What they share in common is goals...The one thing for sure we know they want to do now is become an engineer. The only thing we know for certain about them is that. So I have them in psychology, and they wonder why am I doing this. The reason that they do it is not because I can bring in examples of calculus or chemistry. The reason they want to be in this class is because of what it's going to do for their career aspirations. And that's been absent so far...

R: If you ask them - if they're sitting in chemistry and you ask them, what's the most important thing about this, how I can take some of the to calculus or psychology, or how this can prepare me to be an engineer, what's the answer?

I: You mean what's going to be most interesting to them?

R: Yeah. It's not going to be the fact that they can take it over to their psychology class.

1. Methods

a. Monday night meetings: Focus on connections to engineering

This faculty member suggested that the Monday night meetings feature engineering faculty, rather than the course instructors. This is not the focus of the Monday night meetings as they are currently being implemented.

> R: So instead of having [the Chemistry faculty member]...come in and talk to them some more about chemistry - I mean, that's very nice, and I think that would be good. What they really need is to get...engineering faculty to show up. They don't need to see [the course instructors] another time...They need to see Mike Smith talking about human factors in engineering, which he does superbly...these people do exist in the engineering College, and we're not using them.

b. Making links to engineering in their courses

This faculty member envisioned the FLCP professors connecting their subjects with engineering in their courses. He has already begun to do this in his lectures.

> I: But how [would you accomplish the goal of linking these courses with engineering]?
>
> R: I think what you'd have to do [is find applications to engineering]. I already know where mine are, but if you didn't, what we would need is [engineering faculty with expertise that is relavant to the three courses to talk with the FLCP faculty about applications]...In my case, I do research - I've done work [with certain] factors of engineering...What we should be doing is working with engineers to link our classes to engineering. That's what's important. That's what they want to see. These students want to become engineers. They don't want to see why chemistry has something to do with psychology. What they want to do is know why chemistry's going to help them become a good engineer.

3. Inhibitor: A perceived lack of emphasis on this type of connection in the Monday night meetings

A faculty member felt that the Monday night meetings currently overemphasized social or inter-disciplinary connections and that it should focus on linking the courses with engineering.

C. Creating Better Engineering Students and Engineers

One LC program staff felt that the overarching goal of the FLCP was to create better

engineering students and ultimately better engineers. S/he believed that the FLCP operated in a variety of ways in order to achieve this goal.

Basis of community

The basis of community in this model is both co-enrollment in these three courses and the fact that these students are all pre-engineers. In the following quote an FLCP staff member discussed encouraging the students to take advantage of the fact that they are co-enrolled in "clusters."

> ...[It's important to] try and encourage the students as much as [possible] to take advantage of this deliberate community that we've made.

1. Strategies

a. Monday night meetings an integral part of the community to serve a variety of needs including exposure to the CoE and industry

This FLCP staff member believed that the Monday night meetings were an integral part of the learning community. S/he feels they should serve to encourage the students to work collaboratively and form social connections to improve their learning. S/he states that the Monday night meetings provide a structure to facilitate the students' collaboration.

> There have to be structures for them [such as the Monday night meetings]. [The students need to be encouraged to] take advantage of that. In other words, "Bond as much as you can and discuss the course work that you will be doing. You know, work in teams, work on problems." And hopefully they'll understand things more deeply because they'll have the journal writing.

S/he felt that the meetings should also provide exposure to the resources of the CoE and engineering in industry.

> ...they'll adjust to the school quicker...They'll become more familiar with resources here. You know, because I'm lined up with a bunch of speakers who are going to tell them about the different resources because they didn't have [before] this...they will be meeting different engineering clubs...the counseling component of the College of Engineering, industry, [we're] trying to organize a tour.

b. Foster intellectual connections

For this individual, the FLCP would ideally help students not only to learn the material for each of the three courses but to make intellectual connections across the three subjects. S/he believed that if the students make interdisciplinary connections they will be better able to apply their knowledge to engineering when it becomes necessary.

> ...Even in calc for example, I would like them to understand calc on a deeper level, because if you understand something at a deeper level you can apply it better I think. And once they get to the College of Engineering they'll be called upon to apply certain things that they've learned in these courses to engineering. And if they didn't get the deeper learning from before, it's harder for them to apply--to do the application. So I think bonding will enhance that because they can have discussions with each other...

This staff member felt that the TAs and faculty could foster intellectual connections among the three courses by incorporating materials or assignments that link two or three of the courses, e.g. the journal assignments.

c. Foster social connections and collaborative work

This individual commented about the importance of social connections as part of the FLCP. S/he relates this to the size of UW and the need to make connections with other pre-engineering students.

> To function here, you can't tell me that you [don't have to] be able to function socially. [To be able to function] socially is going to help you big time...The place is so huge that so many people, it's good to know somebody else and especially in the same discipline. I mean right now women are getting to know other women who are going to be in the School of Engineering, which is a big plus. And, [it's important for] men too, to become comfortable working with people who they are going to see later on.

3. Inhibitors

a. Low attendance at the Monday night meetings due to lack of additional credit and the meeting time not being included in the timetable

This FLCP staff member believed that high attendance was important to achieving the goals of the LC. S/he believed one reason attendance has been low at the meetings was because there was not extra credit given for attending, and the meetings were not mandatory. Another reason was that the meeting time was not included in the timetable.

> That would be good if they did get extra credit...The meetings would be more compulsory. And it would make other things more compulsory...the extra credit would make you less hesitant to incorporate other things that would mean more work...if one more credit was attached then we could make that weekly meeting like a lab or something. And it would have a set time on their...schedule.

In this case, the meeting time was determined based on the students class schedules. This has resulted in students having conflicts with extra-curricular activities and work schedules

and the Monday night meetings.

One faculty member discussed the issue of extra credit hours. He pointed out that although engineering students need extra credits "like they need a hole in their head," their perception may be different and may make extra credit important for the success of the FLCP.

> I: Let me ask you one other thing that came up at a meeting. It's this issue of students not receiving any extra credit for this learning community piece...Is that relevant, or do you think that's not a real factor?
>
> R: I think that in reality it is not a real factor. These students need credits like they need a hole in the head. They're all going to have more than the 120 [required to graduate]...The problem is that the reality [of this situation] doesn't matter, [because] in their perception, my guess is it's a big deal...symbolically. They tend to worry about this...If they perceive it as being a bigger deal on their transcript than it is, then we have to address that perception. So I can't say whether it's a big [issue]. If it's a big deal for them, then we ought to find a way to take care of it. [The faculty] know that in reality it doesn't matter squat, but if going to kill this program...

One solution offered by this faculty member was to make the credit variable according to student choice:

> ...you wouldn't let giving them more credit ever stand in the way. On the other hand, some of these are real go getters, and this credit might cost them money. This is one of the things in the honors thing. If I make it more credits, a lot of them carry overloads - they have to pay more. So I do things rather flexible. Sometimes there are credits where you can have them sign up for different amounts of credits, and I don't mind being flexible about those, so take the path of least cost. So it's a little tricky, but if it's something they wanted, I'd probably want to make the option available. If they're going to put in the work, they earn the credit, I don't have a problem with that.

b. Monday night meeting structure dictated by limited resources

Before it became apparent that attendance at the Monday night meetings was low, one individual indicated that the Monday night meeting structure involving one meeting for all 60 of the FLCP students was not optimal, but that it was necessary due to the program coordinator's time constraints. It was not possible for the coordinator to meet at three different times each week with three groups of 20 students each. Therefore, it was decided that the Monday night meetings would be for all of the FLCP students. One FLCP staff member felt it would be difficult for one person to facilitate a group that large.

II. Roles

In the following section, we discuss the FLCP staff members' conceptions of the various roles within the FLCP.

A. MEEF Grant Program Director: Conceptions of Role Vary

The FLCP Program staff differ in their views of the role of the program director.

1. To provide infrastructure and supervise the coordinator's work

The program director herself feels her role is to provide "infrastructure" and supervision--to make sure that the logistical problems of forming a learning community are addressed and to supervise the coordinator's work. Because she has little control over enrollment and recruiting she has focused her efforts in this learning community on providing infrastructure needed to foster community among the students.

> ...all I can do is provide infrastructure. I don't see students at SOAR, I don't recruit students, I don't put them in classes...My role here is administrative and to assist the processes underway. You know, it's done, and the kids are there, and that's what I do. I make sure that the infrastructure's there and the kids get there, and then I'm pretty much out of it.

The infrastructure to which she refers includes making sure the learning community registration goes smoothly, particularly by communicating clearly with those who produce the student timetable.

> R: My role right now, is just to periodically coordinate with Ian [McIntosh]. Make sure that, you know, something is happening on the Monday night. I talked to him about who is he going to have giving these presentations, and I make suggestions about that, and then we talk about the [industrial] tour.
>
> And I've had to work a lot with Ian about making sure that this just previous timetable deadline for next semester got worked out, because I was the only one who had an institutional memory about how it works because the guy who did it last year is gone...And so I had to jump in there and make sure that they understood the subtleties of what has to happen to be good on the timetable, who the timetable people are and all that kind of stuff.
>
> It would be nice to enhance the activity level of the industrial people in these things. We are going to have a panel discussion later this semester on a Monday night where there will be an industry person or two. That's the plan, and they are going to go on a tour of accompany, but that will probably be pretty much the extent of my role.

2. Provide leadership

One faculty member feels the grant program director needs to explicitly discuss her goals with the faculty. After mentioning his lack of personal contact with the program director in the past few months, the interviewer asked,

> I: And what does that mean for you?
>
> R: I think it isn't [optimal]. I think because this is the pilot [that contact with the program director is important]...she hasn't had the opportunity yet to really share what the real goals of this are. In other words...you asked me to kind of say how good I felt about it, which I take as indicating, "How successful are we being, is this paying off?"
>
> I: Just from your perspective.
>
> R: Well, my personal gain on this is virtually nil, so the only positive that comes out of it for me is if it works. But given the absence of knowing what Denice's version of what works...[I don't have any way to know if] it's successful. If we know at the end of this that there were a couple of dozen students who might have washed out for the wrong reasons but didn't, then I'll think well of it.
>
> The problem is, is that when we talked about what are the goals, it's kind of strange. If this were my operation, you would have asked that question, and everyone you asked of it would give you exactly the same answer because these would have been laid out ahead of time.

This faculty member went on to speculate that the faculty could be working toward different goals and be unaware of it.

> R: Well, at times I think one of the reasons why these discussions [at the meetings among the faculty and the grant participants] were not that fruitful was because if you keep a discussion vague enough, you can have three people working at totally different goals without ever knowing this. To some extent we may all feel we're doing perfectly great, or poorly, but at three different goals!
>
> I: Right, so you may all be succeeding at your own goals, but what are the over-arching goals?
>
> R: Yeah. Or we might think we're a dismal failure at our goals, but we're actually doing terrifically. We'd never know.

This statement illustrates the faculty member's difficulty in assessing the success of the program because of his lack of knowledge about the Director's goals.

B. Program Coordinator: Role is Multi-facetted

All of the FLCP staff described multiple roles for the coordinator. According to the members of the FLCP the coordinator provides organization and handles logistical issues for the learning community. He arranges and facilitates the Monday night meetings in order to foster community among the students. He also provides a forum for faculty interaction through organizing meetings. Two of the program staff indicated that part of his role is to foster faculty-to-faculty connections.

1. Aspects of role

a. Facilitating social connections among the students

Several program staff indicated it was part of the program coordinator's role to foster a sense of community among students. One faculty member called the coordinator the "social fabric" of the learning community.

b. Fostering faculty-to-faculty connections: Difficult because of the program coordinator's student status

A few of the program staff stated that part of the program coordinator's role was to foster community among the faculty.

> [Another role of the coordinator is] to foster that community among the faculty too. Because there is the learning community, but then it's not just on the student level, it's student-to-faculty, faculty-to-faculty, student-to-student.

The FLCP staff who expressed this view also discussed the problematic nature of this task due to the hierarchical relationship between graduate students and faculty. A staff member states how difficult this task is because,

> ...they're not really [his] peers...I mean they're faculty and [he's] a student.

Another staff member explained,

> R: ...In the ideal world, [the program coordinator's] role would be a catalyst with the staff, but it appears that that is impossible.
>
> I: [He would act as a catalyst] with the faculty and the TAs...?
>
> R: Right...
>
> I: Yeah, it's been mentioned by a couple of staff members that it's difficult for Ian to be a catalyst, to be one to promote [community among] the faculty. Do you think

that that is just in the nature of the hierarchy and him being a student?

R: Yeah, yeah, and nobody could do it...it's impossible because you have to have a whole [process], I mean, it took a year and a half, or a year for that gang of guys doing the first year course [in engineering design], intensive work, intensive work they did.

This raises the issue that it is difficult for a group of faculty to come together in a short period of time and work toward the same goals.

c. Orienting the TAs to their potential role

From two of the program staff members' perspectives, it is also the coordinator's role to get the TAs involved in the FLCP by encouraging them to use cooperative learning in their discussion sections and use examples that link the courses. Most program staff agree it is not the responsibility of the program coordinator to work directly with the students to foster intellectual connections.

d. Linking the courses to engineering

The program coordinator feels his role includes linking the students and their courses to engineering.

I: ...Is that part of [your role]...to promote the linkages or not?

R: No...I can only influence people to do that...the TAs and the faculty are the ones to really link it. And all I can do is be behind them, or remind them to link. You know, but I physically - I don't think in my once a week meetings I could really link it...I can more link to engineering...with the tour [of a nearby engineering firm], with the different speakers from the College of Engineering, with the members of the different clubs from Engineering.

As indicated in the quote above, the primary forum for connecting the students with engineering is the Monday night meetings. This may be why attendance at the Monday meetings is of great significance to the program coordinator.

2. Problem with Implementation: Several staff feel the program coordinator's role is too broad

In the following excerpt, a faculty member indicates that if this had been an ideal learning community that was driven by faculty interest, the program coordinator would have taken a backseat while the faculty members took off and communicated freely about the FLCP. When asked about his understanding of the coordinator's role he said,

R: You see, I don't know. I mean he seems to be the social fabric. That's the way I sort of see him.

I: Oh, OK.

R: And sort of a facilitator for the faculty. My guess is [if this had been different and were more faculty-driven] as the faculty sort of connected than relative to the three of us he would have just sort of hung on as we did our stuff...I mean, you know, either that he would have helped us and reproduced materials and chaired meetings, but that the faculty would have gotten together and e-mailed. We would have sort of taken off by ourselves.

In the excerpt below a program staff member expresses his/her feeling that the program coordinator is having to make-up for the fact that the FLCP is "not driven by intense [faculty] interest" in creating intellectual connections.

...the faculty are people of very good will, and they've been meeting together, and they're trying to make connections, but it's not driven by intense interest to make connections. It's going to depend on the facilitator Ian. I think so much. And it's not quite fair to put all the responsibility on him.

I: So you're saying the responsibility for making those connections fall on Ian?

R: To the large part.

In the following excerpt, the program coordinator corroborated the above view, expressing his feeling that he is "carrying the ball" for the FLCP.

R: ...[It would be nice if there were] more enthusiasm from some of the other players...I guess enthusiasm boosts me you know. It's just natural. It's like you go to play a game, a game of soccer or something.

I: Right.

R: And you all want to win. All eleven of you want to win. But if you are the one carrying the ball most the time you would feel like you know, you might - the chance of you winning is less...Because at the end of the day [in the FLCP brochure] there will be my name beside freshman learning communities...

I: Now what do you mean by that? That's interesting.

R: Because I'm the coordinator for the freshman learning communities program. Everybody's name isn't on the brochure, is it? It's just my name with Denice [Denton's].

3. Suggestions for the program coordinator:

a. Help facilitate the faculty's exchange of materials

A faculty member would like the coordinator to facilitate an exchange of materials.

> [I would like him to] get me the text, get me the homework assignments...The faculty members are not...eager...you know, they're busy and they forget about it. So [it would be good if] Ian acted, you know, more as a communicator in that way.
>
> I: Right. Maybe facilitating those connections by shipping things around.
>
> R: Right...You know, let me see the homework assignments, let me see whatever. Like for example,...I don't remember if I gave him my new syllabus. I have a new syllabus. And [he could get that to the other two faculty]...So if he could maybe facilitate it a little more that might help.

b. Have clearer meeting agendas

Another faculty suggested the coordinator should have clearer agendas for meetings in order to maximize the faculty's time spent on the FLCP.

> ...I don't want to be critical. I think he [the coordinator] really did a good job. I really think - in fact, I think sometimes his desire to do a good job took a lot of time on my part because he knew he was getting paid and he was supposed to be doing something, so he called meetings that didn't have agendas, but I think it was in his desire to...do a really good job.

C. Faculty: Varying Conceptions of Role Based on Differing Goals

1. Two views of faculty role

Because the program staff conceptualized the goals of the learning community differently, their conception of the faculty roles differed as well. The two different conceptions of the faculty's role are discussed below.

a. To foster interdisciplinary connections

Those who felt that creating interdisciplinary connections was integral to the successful functioning of the learning community believed the role of faculty was to foster these intellectual connections for the students. They felt, however, that this was difficult in the three FLCP courses, because connections were not as prevalent as they were in upper level courses.

> The other players [the faculty] now naturally they are aided by virtue of their teaching classes, so their role is to try to link the courses as best they can. Now, that's not particularly easy because of the nature of the courses. If the courses were a little - a higher level, you know, like high level chemistry. You see it's at the higher levels that things overlap more. At the lower level you know, it's very elementary and things might not overlap as much. So their function I guess is to overlap as much as they can.

One faculty member feels that the calculus course is connected to the two other courses, whereas the psychology and chemistry courses are less linked.

> Mathematics is the tool for these two subjects. So I sort of see...[calculus as] the cement...because [chemistry and psychology]...are not easily linked...I see mathematics as sort of the common theme in [the FLCP]...if I close my eyes I sort of think of it as an angle with [calculus] as the vertex of each of these two [courses]. [Chemistry and psychology are] not so connected.

He states that the FLCP is "not an equilateral triangle:"

> I don't see it as an equilateral triangle. You know,
> I don't see [how] both [psychology and chemistry are] connected [to each other].

b. To link the courses with engineering

The program staff who felt the overall strategy of the FLCP was to expose the students to usher the students into the engineering major (See, section I.B.2.) accordingly felt the faculty's role was to link the concepts in their respective courses with the field of engineering.

2. Problem with implementation: Difficult to make interdisciplinary connections

All of the faculty members have found it difficult to foster interdisciplinary connections among the three courses. In the following interview excerpt a faculty member discusses his initial thoughts about the feasibility of fostering interdisciplinary connections. Although when he got involved with the FLCP he thought it was quite possible, he has since discovered the difficulties associated with this task.

> I: ...What do you think of combining the three courses that are combined in the learning community program?
>
> R: I think the a priori possibility of linking them is low. But that being the case, I think, "You don't know until you try." If I thought in the beginning that it was impossible, I wouldn't have been a part of it.

I: So you clearly saw some possibilities, partially because of your background. You kind of knew that there were [possibilities].

R: Yeah, partially because of that. And I think we shouldn't overlook that it's partially out of ignorance, that we knew little enough about what we were getting into at the time!

I: That you were willing to try it!

R: I didn't know enough to know what would work!

D. TA Roles: Ambiguous

Note: At the time of this analysis, the TAs had not been interviewed. They will be interviewed later in the semester.

1. Ideally the TAs would foster intellectual connections and incorporate cooperative learning in their discussion sections

Some of the FLCP program staff believed the ideal role of the TAs would be to help the students understand the linkages among the three courses and encourage the students to work cooperatively.
One grant participant felt ideally the TAs should play a major role in fulfilling the goals of the learning community.

I: What is the TA's role is in the learning community?

R: Well, ideally, the TA would, up front, give some sort of an overview of what the goals are, what the concept is, how this works. Ideally the TA would buy into the approach, or at least the experiment. Otherwise I'm not sure it would have any impact. And then the TA would do some innovative things in the discussion, rather than doing what they've always done. And the innovative things might be one-minute papers, or they might be cooperative learning or they might be something else. If they go with some technical theme that will cut across both math and chemistry, then the TAs would buy into that theme and revisit it periodically in the context of what they are talking about...

2. Problem with implementation: TAs not selectively chosen for their interest in learning communities and not involved in planning

Most of the FLCP program staff felt it was problematic that the TAs could not be specifically selected to be involved in the learning community prior to the beginning of the semester and thus, could not be included in the planning discussions.

At least two program staff felt that because the TAs were notified about the learning community aspect of their classes when they were hired, at the beginning of the semester they had very little time to plan for or come to an understanding of their role in the learning community. These factors provided little incentive for the TAs to be involved in the FLCP.

> R: ...So the TA's were not asked to participate in the - they were not told, "You need to be on board with the learning community."...[We've] tried to solicit their help in achieving these goals...[We can't] dictate to them...[We have to say], "Well ultimately it's your choice of how to help out in this situation." And...suggest some things that they could do...
>
> I: So you're sort of pulling them in.
>
> R: Yeah...[we're] trying to recruit them...But it's totally up to them...And so they could just take it or leave it.

A process has begun to begin paying the TAs an hourly rate for extra work performed in the service of the learning community.

> There were a lot of logistics problems like, you don't know who a TA is going to be until the second week of the course so you just can't [select the TAs]...And so, because of that and other things, Ian was finding it difficult to get these [TAs involved]...You know, what's in it for them?...So, then the next thought was, "Well, what's the incentive? Can we pay them? Can we pay them to come and do a little bit [extra]?" So that's really plan B.

III. Evaluator's Point of View: Disparate Goals and Unclear Roles Resulted from Lack of Faculty Involvement

It may be that there are disparate conceptions of the primary goals of the FLCP because the learning community was not faculty-driven. Most of the program participants discussed the fact that the FLCP was not "built from the ground up." It did not arise out of the faculty's shared interest in learning communities, but rather from the CoE's interest in creating a learning community. The faculty who became involved agreed to do so because of their commitment to teaching. However, they were over-committed prior to getting involved in the FLCP. For example, one faculty member is involved in the FLCP as a favor to the department head.

> R: [The Chair] asked me. He got a note from Denice [Denton]. And he sent a note around to all the [instructors of my course] and nobody responded. I didn't.
>
> I: You didn't respond either?
>
> R: No.
>
> I: Why?
>
> R: Because I'm already doing 86 things on [another project]

A grant participant articulated that s/he felt that the way in which this learning community came about was problematic.

> [The FLCP] has a very fundamental problem, and that is that this was imposed from the outside by people who were enthusiastic about learning communities and that approach... Rather than be faculty driven. I think the ideal learning community [would be like the one that is currently being discussed by a group of] faculty [who] are very interested in making more connections with chemistry, [and that there would be]...a faculty member in chemistry who [has] biological interests, who would be really excited about having the biological science students in their organic chemistry course. They think that this is more relevant and more exciting and would like this idea of making the connections.

In the following interview excerpt, one of the faculty members discussed the importance of educational reform being driven by faculty who are personally interested in the reform at hand.

> I: Well it sounds like you're really pointing out another piece of the learning community concept or idea of implementing these, which is for the faculty to be involved, that it's critical for them to be in there -

R: ...If they don't buy into it, I mean, forget it. And basically in these educational reforms...the faculty have got to buy into it. You can't have the TA's doing it. Denice [Denton] can't do it. Even if you get a faculty member grudgingly to do it...it just ain't going to go.

It is possible that some of the faculty members involved in the FLCP do not completely "buy into" this type of educational reform effort. For example, one of the faculty members expressed skepticism about learning communities:

R: ...learning communities are a trendy new idea. I mean, this is being frank. They're not proven. I think between the flash of it and the fact that the greatest attrition was with women, they were in good shape to get funded to do this, so why not try it?

I: Okay, this is interesting. So you think they're trendy, but you're not sure - by trendy you're saying also that it's not substantiated that they do what they proport to do?

R: It's early, and I think the diagnostics are hard, which is true for almost all education philosophies. If you look at the history of the sorts of things you watch happen in education, a lot of them come and go quietly over a 6 to 10 year span, some more efficient than others.

Because the faculty were not involved in the creation of this learning community they did not go through a process of defining a shared vision and crafting goals. Without a shared vision, their conceptions of the roles of the various players in the learning community were vague as well.

It is possible that given this situation where the faculty were asked to be involved in the FLCP after it had been created and conceived by someone other than themselves, that there was an increased need for leadership, for someone to step in and clarify the goals of the learning community. These faculty found it difficult to help shape the learning community, understand their role, and orient the TAs to their role all within a short time period.

Despite this, one faculty member indicated there was much to be learned from this experiment. He discussed creating faculty ownership through faculty involvement in an experiment even if it might fail.

R: You want to know a great insight?

I: Yeah.

R: OK. A great insight that I had, and this is just one I really struck home with me. Which is - this is something that [another faculty member] said at one of the first

learning community meetings. She said, "You know, we don't want to invent a flat tire." Remember that one?

I: Yes.

R: OK. Wait a minute. On the other hand, we're talking about one of the important ways of teaching is getting students to have ownership of the material. And then when they own it, they know it. Why is that any different for me the way I teach? I may have to make mistakes. I may have to do it. Even though - even though somebody hasn't been you know, hasn't [gotten it to] work. If I do it, try it and screw up, then I see it, and then I own it. [Whereas] if I just listen to somebody who writes a paper and says, "This won't work." Maybe, if I don't believe, I don't have ownership of it.

I: So you're saying for - from a teacher's perspective it's the same?

R: Yeah, you got to own it too. You've got to try. So don't be so afraid of trying it...I mean, on the other hand you don't waste enormous amounts of time. But I think there's the same problem of ownership. You know, if I'm listening to somebody who said, "I ran this program and it was great." Maybe it was, maybe it wasn't. And if somehow it doesn't sound right to me, I'd say "Well, I think I would like to try it this way." That I may have to try it. Even though I go down to crashing failure, because then I've got ownership.

Appendix: Interview Protocols

LEAD Center Project on the Engineering Learning Community
Interview Guide

Fall 1995

Faculty Instructors and Learning Community Coordinator Protocol

Introductions and presentation of the Informed Consent form.

Briefly review points from the Informed Consent. Check that the instructor is comfortable with the tape recorder. If not, just take notes.

Role Issues:

How did you become involved with the LC?

What is your role in the learning community?

How did you come to understand your role?

Are there things within the LC structure that will help you fulfill this role? Hinder your ability to fulfill this role?

Goals:

What is the goal of the learning community program?

What is *your* primary goal for students in the LC? [Prompt: Is the learning community primarily about thematic connections between courses, or is it primarily social?]

How do you think this goal can best be achieved?

Are there certain necessary conditions for success?

What is your role in achieving this? The TAs' role? The students' role? The faculty's role? The learning community coordinator's role?

Do you plan to change your course to incorporate the learning community idea? If so, how? [Prompt: How, if at all, will you address the issue of giving credit for extra work assigned to

LC students?]

Student's Expectations:

How, if at all, did you present the idea of the LC to your students? [Prompt: what do you perceive their expectations to be from explanations at SOAR, from the brochure, or from your explanation?]

[For the LC coordinator only]: How did you recruit students into the LC? What did you tell them about it?

Structure of Learning Community

[For the FLC coordinator only] How will the weekly learning community meetings (Mon. nights) be structured? What are your goals for this aspect of the LC?

In your view, what is the role of the weekly learning community meetings?

What impact, if any, do you believe the fact that the LC students are receiving no extra credit for attending the Monday night LC meetings will have?

What do you think of the courses chosen to be a cluster in this program?

Ideally, how would you design a learning community? What would an ideal learning community look like to you?

Input Into the LEAD Evaluation

What would you like LEAD to look at during the evaluation? What would be useful for you?

How frequently would you like feedback and in what form?

What would you like in the way of formative feedback? Would you like to see an analysis of your fellow instructor's goals in the next few weeks and have a discussion around it?

How do you envision using this feedback?

LEAD Center Project on the Engineering Learning Community
Interview Guide

Fall 1995: Students Enrolled in the Learning Community

Introductions and presentation of the Informed Consent form: Briefly review points from the Informed Consent, focusing on how the evaluation and assessment process relies on learning about what and how well students are learning in this course. The evaluators are allies who can help students communicate things to the instructors that might be awkward for students to say directly. Check that the student is comfortable with the tape recorder. If not, just take notes.

Background:

1. Please tell me a little about where you are from and what type of high school (size) you attended.

2. What led to your decision to come to UW-Madison for college? [Prompt: teachers, family, friends, counselors, special experiences?]

3. Tell me about your preparation for college math and science courses.

4. What are your first impressions of UW-Madison?

5. If I gave you a camera and asked you to take pictures that showed "what UW is like for you," what would you take pictures of?

6. Tell me about a typical day for you.

The Meaning of a College Education

7. If you had to explain to a person from another planet why you were in college, what would you say? (Why are you in college?)

8. If you were told that getting a college degree wouldn't get you a better job than a high school diploma, would you go to college?

Expectations:

6. As a freshman who is starting college, are there things you are looking forward to? Any concerns?

7. Tell me a little about ideas you have for a major, or possible plans for your future professional life.

8. How did you find out about the learning community? [Prompt: Did you hear about it at

SOAR and/or receive a brochure?]

9. When you enrolled in the learning community, what were your expectations? Why did you enroll? What do you want to get out of it?

9. From your experience the past few weeks, do you think it's going to meet your expectations? Does your initial experience match your expectations?

10. Why are you taking calculus? Psychology? Chemistry?

11. How do you feel about taking each of these courses?

First Impressions

12. What are your first impressions of your calculus class? Your psychology class? Your chemistry class? [Prompt: lecture, discussion, lab, TAs?]

13. What are your first impressions of the Monday night learning community meetings? If you have not attended them, why not? [Prompt: What would make you go?]

14. What is it like to be in a class with only preengineers?

The LC Experience

15. Can you tell me about the journal writing you're doing for Math 221? Tell me about how you wrote the first assignment. [Prompt for issues of meta-cognition.]

16. Do you see ways that the ideas in these courses are or can be connected?

17. Have you gotten to know any of the other students in the LC? What about in the lectures, do you sit alone? With other students?

18. If you saw a group of students from your calc discussion sitting at a restaurant across the street, what would you do?

Gender/Ethnicity/Identity

19. How comfortable do you feel in your discussion sections? In lecture? In the LC meetings? In lab?

Closure

20. Is there anything else you think that someone trying to understand student reactions to this learning community should know at the beginning?

21. Do you have any questions for me?

LEAD Center Project on the Engineering Learning Community
Interview Guide

Fall 1995

Control Group:

Students Not Enrolled in the Learning Community

Introductions and presentation of the Informed Consent form.

Briefly review points from the Informed Consent, focusing on how the evaluation and assessment process relies on learning about what and how well students are learning in this course. The evaluators are allies who can help students communicate things to the instructors that might be awkward for students to say directly. Check that the student is comfortable with the tape recorder. If not, just take notes.

Background:

1. Please tell me a little about where you are from and what type of high school (size) you attended.

2. What led to your decision to come to UW-Madison for college? [Prompt: teachers, family, friends, counselors, special experiences?]

3. Tell me about your preparation for college math and science courses.

4. What are your first impressions of UW-Madison?

5. If I gave you a camera and asked you to take pictures that showed "what UW is like for you," what would you take pictures of?

6. Tell me about a typical day for you.

The Meaning of a College Education

7. If you had to explain to a person from another planet why you were in college, what would you say? (Why are you in college?)

8. If you were told that getting a college degree wouldn't get you a better job than a high school diploma, would you go to college?

Expectations:

9. As a freshman who is starting college, are there things you are looking forward to? Any concerns?

10. Tell me a little about ideas you have for a major, or possible plans for your future professional life.

11. When you were enrolling in classes, were you aware of the CoE's Learning Community for first-year students? [Prompt: Did you hear about it at SOAR and/or receive a brochure?] If so, why did you choose not to enroll? Would there have been something that would have made you want to be in it?

17. What would it like to be in a class with only preengineers? Do you think your experience as a first-semester student would be different?

12. Why are you taking calculus? Chemistry?

13. How do you feel about taking each of these courses?

First Impressions

16. What are your first impressions of your calculus class? Your chemistry class? [Prompt: lecture, discussion, lab, TAs?]

17. Do you see ways that the ideas in your Calculus and Chemistry courses are or can be connected?

18. Have you met people in your classes? Do you see them outside of class? What kinds of things do you do (studying, eating lunch, going out)?

19. What is it like adjusting from a high school social life to a college social life? Are there things that make it easy? Difficult?

Gender/Ethnicity/Identity and Belonging

20. How comfortable do you feel in your discussion sections? In lecture? In the LC meetings? In lab?

21. If you saw a group of students from your calc discussion sitting at a restaurant across the street, what would you do?

22. When you have difficulty doing a homework problem, say in Chemistry or Calculus, what do you do?

Closure

23. Is there anything else you think that someone trying to your experience as a first year student at UW should know?

24. Do you have any questions for me?